PCBEINGE STEEL

THE COMPLETE GUIDE TO PC LEISURE

Store it!

We take the new Jaz drive for a test run

Movie mania

Everything you ever wanted to know about films on the Net and CD-ROM

3D Studio Max

The ultimate graphics app reviewed

Protect your PC

Virus billers head to head. Which is the best?

OLYMPIC GAMES

Try two complete events

ORIGINS OF MANKIND

Exclusive interactive demo

CUBASE SCORE 3.0

Make music with this MIDI tryout

CITIZENS

Be a god in this village-life game

SCALA SHOW AND TELL

Design your own multimedia

VIRTUA FIGHTER REMIX

Play Sega's killer beat-'em-up

SILENT THUNDER

Fly a mission in an A10 Tank Killer

• PERFECT PLANTS

Look after your garden - a handy guide

August 1996 • £4.99 • CD Version

Cut your Own CD-ROMs We get you started today!

Get a faster PC

Step-by-step guide to upgrading your CPU the easy way

As seen on TV

Buyers guide: Video capture cards tested

Record Breakers!

The Guinness Book of Records comes to CD-ROM

Here come the... DIGITAL PEOPLE

Artificial life report:

- Discover how cyberlife will change computing forever
- Meet Japan's virtual pop star
- Breed digital critters with your PC six programs on CD







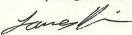
'THE MOST IMPORTANT PC GAME EVER'





Artificial life has always fascinated me. There's been something of a revolution in the science of replicating living organisms digitally and our investigation, starting on page 65 not only gives you the hard word from the cutting edge, but also shows how this new binary biology will change your day to day computing life. Essential reading! James Binns, Editor jbinns@futurenet.co.uk





Get a faster PC

Upgrading the processor is a key step in souping up your PC. Your games and applications will zip along without you having to buy a new higher spec machine to do so. Our easy to follow guide explains what to look for in a faster CPU and takes you through a step-by-step guide to fitting one.



Movie Mania

Everything you ever wanted to know about the movies. We go on-line and discover the shrines to the stars, big studio home pages, movie clips, Net film magazines, libellous gossip and more. On CD-ROM we go in search of the ultimate movie reference guide. Is there any challenge to Cinemania 96?



Record Breakers!

Last month we brought you Extreme Sports. This month, it's just extremes, as we review the Guinness Multimedia Disc of Records, Based on the best selling book, it's the ultimate source of facts about tall, fat, noisy and quite possibly insane people, along with lashings of the natural world too!



Burn your own CDs

Making your own compact discs is the next big thing... it's official. For the first time ever CD writers are selling for less than £500 - the technology is affordable - and with our guide introducing you to the the know how, it's within your grasp too. Go for it!



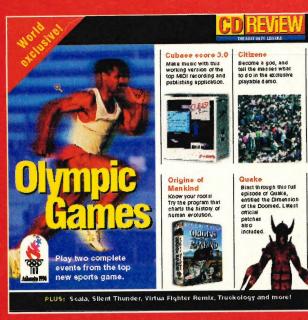
FREE QUAKE QUIDE

On CD Review, we bring you the shareware version of the game everyone's been waiting for. To accompany it is our unbeatable guide to playing through it. All the secrets are revealed, and you get early warning of most of the monsters too. If this doesn't crack the Dimension of the Doomed wide open then nothing will. The PC Review guide is available only with CD-ROM versions of the magazine.



Here Come The Digital People

Is she real or just a virtual creation? Well, he name is Kyoto Date and you can meet her in our investigation into the weird and very real world of artificial life. Find out about data worms on the Net and read an exclusive preview of Creatures, one of the most advanced pieces of Alife software yet.



See Page 97

Olympic Games world exclusive

The PC Review Summer of Sport continues with our stonking demo of Olympic Games. Two events are featured in their full glory, so load up and try weight lifting and skeet shooting.

Player

14 games to try, including THE BEST PC GAME EVER Quake - along with the latest patch upgrade. Also, look out for the God game Citizens, air combat sim Silent Thunder, and Sega's Virtua Fighter.

The Works

Seven nuggets on offer, including a working version of multimedia package Scala, an exclusive Cubase Score 3.0 demo and the full version of Digita Organiser 1.0.

Multimedia

Six products featured, including exclusive previews of Origins of Mankind and Perfect Plants. Also look out for demos of Truckology, SFX CD, Connections and Discover Astronomy.

Shareware

The five best shareware programs this month, including a fully working word processor, a guitar tutor and a utility to print out massive posters.

The CD Review booklet contains a quick reference guide to the game controls. Turn to page 97 for a massive nine page guide to using the disc, including various projects, hints and tips.

EASY FIND

PLAYER

All the latest games reviewed in our no-nonsense style. If you're looking for buying advice then this is the place to come.

40 Afterlife The Gene Machine 35 Judge Dredd 39 Kick Off 96 46 Onside Soccer 46 Pray For Death 52 Return Fire 48 SWOS European Edition 46 55 Space Hulk StarFighter 3000 42 Timon and Pumbaa 44 Virtua Fighter Remix 51 **BUDGET GAMES** 56 PLAY TO WIN 58

MULTIMEDIA

If you can think of it... then it's already on CD-ROM. Our guide to the finest multimedia Great Cities: Europe Guinness Multimedia 80 Myths and Legends 2 78 Origins of Mankind Perfect Plants Yellow Star

THE WORKS

Whether you're a home or business user, this is the place to come if you want to get the very best out of your PC hardware and software. Buyer's Guide:

Video capture cards Captivator Video Galaxy Gamma Video Blaster RT300 WIN/TV Cinema Pro Miro DC1 Plus Mirovideo DC20 3D Studio Max 83 Iomega Jaz Drive 87 Dual Cooling Fan 89 Hurricane 95 Scala MM100 Anti Virus round-up 86 PC-Cillin 95 Norton AntiVirus Dr Solomon's Toolkit

Helpline













REGULARS

What's Peter Gabriel been up to? Plus how to avoid ads on the Net.

31 Letters

What do you think?

32 Subscribe!

Get free stuff and save money.

នាទ Player

Reviews of 12 new games, plus loads of budget releases.

58 Play to win

Tips and hints for 9 games, plus player's guides for Civilization 2 and Deep Space Nine: Harbinger.

65 Cover Story

Artificial life investigation.

73 Multimedia

Six new releases including the new Myths and Legends disc.

83 The Works

Productivity reviews include a nifty internal fan.

106 Next month

The art of lying.

Editor: James Binns Deputy editor: Garrick Webstar Technical editor: Mat Broomfield Art editor: Simon Barnes News aditor: Owain Bennallack Art Assistar Mana Wilson CD-ROM editor: Graham Barlow Insida photography: Rick Buettner Photo library: Image Bank Senior adverteing manager: Comesewer Advertising manager: Susannah Mansfield Sales Executive: Jenny Whita Markating manager: Gall Stevenson Marketing (mail order): Simon Howarth Marketing asst (subs): Simon Steele Publicity & PR: Liz Ramsay & Jenny Press (017) 331 3920): Promotions manager: Tamara Ward For all Licensing Enquiries regarding PC Review, please contact Mark Williams Tai: +44 17) 331 3920, Fax: +44 171 331 3929, enail: mwilliams@pen.couk. Production manager: Finana White Production co-ordinator: Manuela Grean Ad designers: Sarah Moody, Liz Tuck. Production

Just think what you could do with a whole, extra gigabyte. Now think about what you could do if it was removable too. lomega brings you the last word in removable storage.

It's the 3D graphics application favoured by the professionals, and now it's getting a PC debut. Prepare to be stunned by the ultimate modelling package.

Your PC and the data on it is at risk if you don't think seriously about anti-virus software. We test the three best programs on the market for the home user.

It's a scary fact, but we're all evolved from stupid apes. Who were evolved from stupider apes. Who were evolved from rats. Or something. This CD explains it all!

Just can't ignore it, can you? Quake is already being hailed as the best PC game ever. But so far we've just seen the shareware game. We ask: "What next?"

Behind the scenes: Sports double bill24

We report on the making of two very different sports games: Links LS, the latest golf game from Access and Davis Cup Complete Tennis, being developed by Dome for Telstar.

Afterlife takes the god game genre and gives it a dose of LucasArts magic. We find out what went wrong in our indepth review.

Helpline: your questions answered91

Is your PC refusing to co-operate? The PC Review team plough through a mailbag of our most common reader problems. We've got the answers you're looking for!

technicians: Jon Moore, Jason Titley, Simon Windsor, Chris Stockar, Lir Cheney, Mark Govar Group production manager. Judith Green Colour origination: Phoenix Reprographics, Bath Printed in the Urb y E. T. Heron CD-R0M manager. Ben Bodd Publisher; um Douglas Publishing director: Jane Ingham Managing director: Greg Ingham Chairman: Nick Alexander Circulation director. Sue Hartley Distribution and circulation UK and overseas newstand by Future Publishing Ltd 01225 442244. No part of this publication may be reproduced without written permission from our publisher. We assume all letters sent—by email, fax or post—are for publication unless otherwise stated, and we reserve the right to edit contributions. All contributions 10 Review are submitted and published on the basis of full assignment of copyright, unless otherwise agreed in

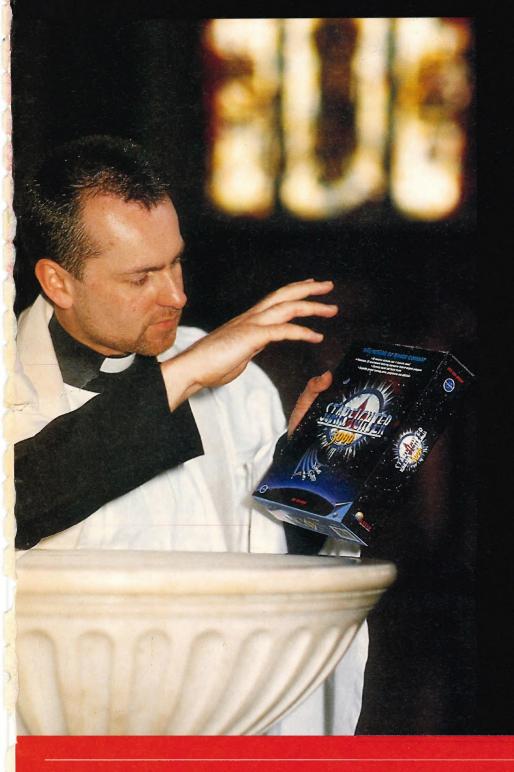
advance and in writing, All CD-ROM demos and reader submissions are supplied to us on the assumption that they can be incorporated into a future cover-mounted CD-ROM unless expressly stated to the contrary. We cannot be haid responsible for any mistakes or misprints. PC Review recognises all copyrights in this issue. Where possible we have acknowledged the copyright. Plesse contact us if we have failed to credit copyright.

© Future Publishing Ld 1999

PC Review, Future Publishing Ltd, 30 Monmouth Street, Bath, BA1 2BW, Tel: 01225 442244, fax: 01225 732275

email: pcreview@futurenet.co.uk

LAST YEAR 32-BIT GAMING WAS BORN... ...ONLY NOW CAN IT BE CHRISTENED





"THE REASON YOU
BOUGHT YOUR 32-BIT
GAMES MACHINE"

"Ultimate Future Games Magazine"

FIRST REVIEWS:

● CD-ROM GAMES - 92% ● PC POWER - 90% ● PSX PRO - 8½/10









AVAILABLE NOW FOR PLAYSTATION,
PC CD-ROM & SATURN

- 60 MASSIVE, STRATEGIC MISSIONS.
- 8 THUMPING DIGITAL STEREO MUSIC TRACKS.
- BLISTERING 3D GRAPHICS.
- UNIQUE (ANY ANGLE) CAMERA VIEWS.
- UP TO 10 WINGMEN, AIR-TO-AIR & AIR-TO-GROUND MISSILES, LASERS, MULTI-MISSILES, MEGABOMBS, AIRBOURNE MINES, EXPERIMENTAL FIGHTER CRAFT.





CAN YOU FEEL IT?

Leaked Quake beta hits where it hurts!

hances are by now you've played the shareware version of *Quake*. What you may not know, however, is that a beta version of the full game was leaked from one of the testers and turned up on the Internet last month. And though the leak has been plugged, impatient gamers are still poking around the Net trying to get their hands on it.

The result? By rushing into the unfinished game, they've probably spoiled the excitement for themselves.

We contacted Id Software to see how finished the leaked beta was, and business manager Jay Wilbur explained that, while the level maps themselves were only being changed slightly, there were massive updates planned on the lighting. Additionally the team was adding Gravis Sound support. Wilbur scoffed at the latest patch (version 0.92m included on CD Review) which implements joystick control, claiming that the only reason

Id had done it was so that, "people can go in and see for themselves that joystick sucks for this kind of game."

Another major change expected in the final version is redbook audio – CD quality music which streams from disc while playing. Id is still involved in wranglings with Nine Inch Nails to secure exclusive tracks for the game. As for the storyline, the back of an envelope plot in the shareware version is likely to be abandoned. The chance of a character called *Quake* appearing is dwindling, though Wilbur maintains that anything could still happen.

On the frontend, expect a revamp of the menus. The text-based console will stay, but there will be a much more intuitive method for running network and modem games plus an easier way of choosing the clothing colour for your character.

So, when's the finished game coming out? When it's finished. Stay tuned for further ld developments.



Angry. Id Software is not pleased about the leaking of a full beta version of Quake onto the Internet, but promised that the finished product will be far superior to it.

Id Software is still involved in wranglings with
Nine Inch Nails to secure exclusive tracks for the game.

GO GOO GOO

Get the face you want with Kai's new baby



If you can do this to the Mona Lisa, imagine what you can do to your boss.

Putting the fun into function, Kai's new *Power GOO* is a graphics mutilation and manipulation tool. You can grab a face, then stretch, smear and warp it right before your eyes. "I love seeing the smiles *GOO* gets from people who never thought of themselves as being creative," said John Wilczak, company founder. "This product is Funware!"

With a sophisticated fusion palette and GOOvie animation, GOO marries the special effects of high-end imaging systems with the coffee-break realm of personalised t-shirts and screensavers. Either import your own mug, or else pick a victim from a gallery of famous faces, then get Gooing!

We'll be getting sticky with Metatools' Kai Krause in next month's PC Review interview, when we'll also bring you an in-depth GOO review.

Master Blasters

Creative Labs lays its cards open

You've heard the story. Boy doesn't meet girl, boy leaves real world for the Internet, boy meets girl, girl lives in Dundee, boy runs up an enormous phone bill calling his beloved from Exeter.

Creative Labs, the company that brought you the SoundBlaster, is now offering our boy the Internet-Blaster as an affordable way of getting on-line. For £149, it comes with fax facilities, free CompuServe access and WebPhone from NetSpeak, enabling the lonesome boy to phone long distance for the price of a local call.

What? Boy needs even more power? For £199 his PC can make a date with ModemBlaster Voice, which bundles in communications software to create a virtual secretary on his Windows desktop.

The march of the Blasters continues on the visual front with the Graphics Blaster family. These cards feature 64-bit accelerator technology from Cirrus Logic with the retail model, the MA302, making use of new RAMBUS technology. Clocking in at 500Mb/s bandwidth, it will cost a competitive £129. Finally, if you're a Creative Labs fan who's looking for a 3D accelerator you might consider waiting for its forthcoming 3D Blaster card. This PCI model, which supersedes the previous VLB card, has the support of a number of developers, with Euro 96 one of the first games to benefit.

Dark Earth brings cataclysm

New 3D adventure from Mindscape



Dark Earth's real-time texture mapping, gouraud shading and SVGA conjure up a scene familiar to anyone who's ever experienced an apocalyptic comet collision.

ark Earth is the first in a new series of games from Mindscape set in a medieval future world. Three centuries ago a gigantic comet passed by the earth and, in the best tradition of galactic cataclysms, destroyed life on Earth as we know it.

With most of the planet's surface made inhospitable by impenetrable black clouds, the last vestiges of



More than 3,500 frames were needed to animate the 80 creatures inhabiting the Dark Earth universe. Here's just one of them.

mankind cling on in the Stallites, pools of light piercing the perpetual gloom.

Rendered with Softlmage and 3D Studio, Dark Earth features a mix of cinematic sequences and 3D land-scapes, plus a full MIDI soundtrack and over two hours of spoken dialogue. The game is not slated for release until early next year.

PLAYER IN BRIEF

- Have you heard of *Z*? That's the cryptic name of the next big game from The Bitmap Brothers, designers of *Speedball* and *Chaos Engine*. It was supposed to come out for Xmas 1995, but has seen some epic delays. *PC Review* can finally confirm that *Z* − a kind of *Command & Conquer* with ABC Warriors and big explosions should be out by the time you read this. The reason for the delays? While the game worked well in multi-player testing with two or four players, the artificial intelligence was incapable of playing a three player game. Review and demo next month.
- You'll be able to skip from swordplay to soap opera in Masters of Dimension, a new reality hopping adventure from US Gold. Armed with a gadget that breaks down space-time barriers, you scour the dimensions in search of Merlin the Wizard's fragmented staff, flitting from space station to detective film noir via more than 100 locations. Alternatively, if 12 realities are too much, step back to just the one. Wage a sea war of yore in Wooden Ships & Iron Men, also from US Gold. As captain of a Man-o'-War, you grapple with the Americans, British, French and Spanish, hitting first with long range cannons and then moving in for the kill with a grisly boarding action.
- Next up, two upgrades for Microsoft Flight Simulator. FSFX brings you the Austrian Alps, with a visibility of just five miles, the urban sprawl of Paris and New York and a souped-up Japan, with the breathtaking Mount Fuji climbing 14,000 feet and out your monitor. In all, the developer Papa Tango has added more than 300 new effects, and claims its new Textureal technology has proven so impressive that it's up for patent. FSFX is expected to cost around £39.95 Meanwhile Perfect Flight from Instant Access concentrates on improving the scenery in the British Isles, as well as giving you 18 new planes to crash. There are new islands too, including the Channel Islands, Gibraltar, the Canaries and the Azores, all at £19.99.
- If you're itching for flipping and tilting, there are four new tables in *Absolute Pinball* from 21st Century. Each has a theme Hollywood, baseball, aquatic adventures and the desert. Created in conjunction with Swedish developers UDS, it is due out in August at £29.99. More original is the *Pinball Construction Kit*, being designed by SpiderSoft. Working from 64 tables, you can add your own bumpers, kickers, lights etc using an intuitive point and click interface. It should sell at £44.99. More soon.

Advert adversary

hapel Hill, North Carolina seems an unlikely birthplace for an on-line revolution. But if 23-year-old James Howard has his way, Net prospectors everywhere will come to rue his student town. His new software, Internet Fast Forward, subverts Internet ads by stripping them from Web pages as fast as they're downloaded. It could prove catastrophic for anyone hoping to make money on-line. Last year alone, Internet advertising was a business worth more than \$60 million.

Howard, a drama student, is chief executive of PrivNet, the company he co-founded to market the product. "Advertisers have every right to put all the ads on the Web they want," he says.

"Users have every right to try and block them." Fashlonable bannerstyle adverts are not only obtrusive, says Howard, but they cost a significant amount to download. "Right now, it's costing me money to look at their ads."

IFF plugs into Netscape's Navigator and also enables users



PrivNet's on-line logo from the site advertising the software that may end Web advertising. Ironic indeed.

to block blinking text and graphics. It cleanses the Net Search button of advertising and it even reformats text around the expurgated propaganda. If it catches on, IFF could force content providers to find other sources of funding. At one extreme, currently free sites could elect to charge a connection fee.

James Howard hopes to make serious money from his ad-blaster. He's no white knight, and claims to have invested hundreds of thousands of dollars in his fledgling company. What if the program bombs? Well, there'll always be theatre.

Internet Fast Forward can be downloaded from http://www.privnet.com.

The Pen is Mightier

he world's best (and only) cordless, batteryfree, pressure-sensitive pen peripheral just got better. Or so claims its maker, anyway.

The new UltraPen Eraser from WACOM features a pressure-sensitive drawing tip and eraser plus two new programmable side switches which mimic Windows mouse functionality. The UltraPen offers 256 pressure settings and provides the user with two different drawing feels. For accurate creative work and

writing there's the hard feel, while the eraser tip has that soft, flexible feeling for painting and drawing work.

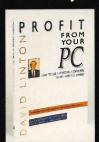
It is compatible with well known graphics packages like Adobe *Photoshop*, and Fractal Designs' *Dabbler* and *Painter*. Furthermore, it is designed to be context-aware, so it doesn't try to remove chunks of the screen when you're running a word processor, but deletes your words instead. It's available in the UK from Computers Unlimited.



Weighing in at 14cm, 10g, the UltraPen Eraser will never run out of ink. It's yours for £59.

RECOMMENDED READING

Profit from your PC



Up for making a fortune by using your PC to help you play the stock market? Then you'd best have a read of *Profit from your PC* by David Linton. With a fairly accessible breakdown of the financial market and plenty of charts showing you how to catch trends, the book hopes to tell you how to accurately judge the right time to buy or sell.

With Profit from your PC comes a coupon for a free copy of Updata Profit

for Windows – a stock market simulator detailed in the book. The book also features a full Internet financial directory so you can log onto your favourite financial sites.

PCBBLE

The PC Bible 2nd Edition

This is the latest edition of a book which has become extremely popular among PC tinkerers the world over. It incorporates practical advice on just about every area of computing, ranging from how to buy a PC, to networks, communications and even personal finance software.

Each chapter starts with an easy to

follow introduction, before going on to discuss in more detail the various facets affecting the issue at hand. Along the way, there are little tips and highlighted points of especially great importance. This book is an all-in-one library and is comprehensive enough for users of all levels of experience.



The Indispensable PC Hardware Book

For your spit and sawdust users who really like to get their hands dirty, here's The Indispensable PC Hardware Book. It's just the thing for anyone who wants to know all there is to know about hardware systems and how to upgrade them. Although, by its nature, the book does become rather deeply technical at times,

it's a very useful reference source when you want to check specific details concerning how various pieces of hardware from processors through motherboards and on to SCSI interfaces and terminators work.

It's very much aimed at the more experienced, perhaps even, the professional reader, for whom it provides a wealth of real nitty-gritty information such as network topology, PCMCIA functions and codes, hard drive parameters, and so on.



The Underground Guide to Troubleshooting PC Hardware

In the light of our hardware upgrade feature on microprocessors, we thought that we'd mention this book because it's an ideal companion to the job at hand (ie upgrading your processor.

As it's name suggests, the book has been written to help you solve hardware problems, but it's more than that. It's

about acquiring a deeper understanding of your computer and peripherals in general. Although it covers similar issues to the *Indispensable PC Hardware Book*, the *Underground Guide* is altogether more accessible and light-hearted, but that readability comes at the expense of expert level information. It's a far less weighty tome, and doesn't go into so much depth. Good for novices and intermediates.

SUMMER SALES

Internet retailers are out for your money

he cash registers of cyberspace are ringing loudly this month. ShoppersUniverse, a new virtual shopping mall, was launched in the UK while in the US, Microsoft has acquired eShop Inc, a leading developer of Internet commerce technology. These latest developments betray the interest that direct to home retailers (the companies responsible for infamous mail bomb literature) have in tapping into the lucrative 20- to 45-year-old on-line male market.

At ShoppersUniverse, you pick up your virtual shopping bag then wander through outlets such as Burberrys, Interflora and PC Sports. You can find the perfect tennis racket, buy it with your credit card and have

it delivered to your door in just five days. "Electronic shopping is as rich as it is in reality, but without the hassle of traffic jams, parking costs, crowds or heavy shopping bags," said Lesley Mingay of Shoppers-Universe, promising that 3D-modelling, zoom control to inspect the goods and personal electronic shopping avatars for customers will feature in the Net shops of the future.

Microsoft's purchase of eShop is another vote of confidence in electronic commerce. It will integrate eShop's commercial services tools into its Microsoft Merchant technology to create a next generation Internet shopping construction kit for developers. Shoppers-Universe is the first European site to benefit from Microsoft's new solutions.



ShoppersUniverse - surely there are no bar codes in cyberspace?

Rubbish

Explore a stinking junk yard

own in the Dumps, the eagerly awaited cartoon adventure from Haiku Studio, is close to completion. The game has already won a London Effects and Animation Award, and is full of adult humour violence. Haiku, which produced Megarace, has been working on DITD for over two years, blending cinematic sequences and interactive graphics with engaging, surreal gameplay.

You play the members of the miniature space-faring Blub family, who've crashed to Earth after a road rage incident at the intergalactic cross-roads. Landing in a tip, the Blubs build a camp among the Coke cans and old boots and start fixing their vehicle. Portions of the downed spaceship have

been scattered hither and thither, and it's your job to find them. A trigger-happy rat, a susceptibility to alcohol, a cosmic gang of teenage tearaways and anything over six inches tall are all that stand in your way.

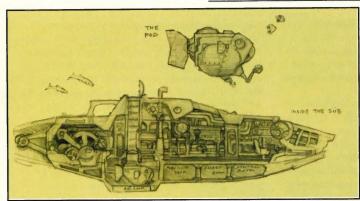
Down in the Dumps, published by Philips Media on CD, is due out in October.





See the light

Sierra presents an alternative reality



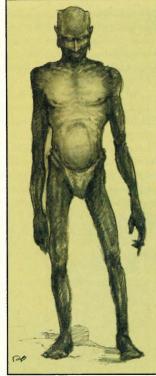
The submarine you pilot in Lighthouse is fully interactive. Contrary to the sketch, we advise you keep the hatch down while underwater.

t's a grinch-like, tattooed, power hungry creature like the coyote in native American mythology, or Briar Rabbit," says Oliver Brelsford of the Dark Being, a key character in Lighthouse, the game he's designing for Sierra. "The Dark Being represents many of the bad characteristics of human kind."

Conceived of as a modern folk tale, *Lighthouse* sees you baby-sitting your friend Doctor Krick's daughter. The Dark Being materialises out of nowhere, grabs the kid and vanishes. A mad chase to retrieve the child ensues taking you – via foot,

ornithopter and a submarine – through an other-worldly dimension.

The plot and characters were dreamed up by Brelsford and his girlfriend while they drove from LA to Fresno. The point and click gameplay will involve puzzles, along with barren landscapes. The graphics are prerendered, with character animation achieved using Alias Power Animator on Silicon Graphics workstations. We've been lucky enough to see a pre-release version at PC Review and can confirm that the visuals, while not in real-time, are still worth looking out for. Expect Lighthouse late Summer.



A wily, evil looking fellow, he's called the Dark Being in his home dimension. At one point Sierra had 12 artists devoted to creating a visual feel of Lighthouse.

MULTIMEDIA IN BRIEF

- Is your love life flagging? Revive it by spending more time in front of your computer. The Lover's Guide, published by YITM, is yet another sex guide CD-ROM. This one claims to offer interactive sex by adapting to the personal preferences of its users. It includes photos, illustrations and 35 minutes of video sequences, and you can also listen to pre-recorded true life experiences. It is due for release in October.
- For something completely different, why not explore the history of Native Americans with *Thomas Blue Eagle*, also published by YITM. Based on a true story, the CD features unique visuals, with episodes from Thomas' life animated in his own ledgerbook. He's backed up with words from his father, Chief Iron Arm. You can even create your own stories, then animate them to produce a charming dancing picture. *Thomas Blue Eagle* was produced by two American lawyers and has already won an EMMA for best visuals. Look out for a review in a forthcoming *PC Review*.
- Blender, the CD-ROM music and entertainment magazine, is going on-line. Starting with the July issue, users will be able to access BlenderWeb at the click of a mouse, and then jump seamlessly back to the CD-ROM. Check it out at http://www.blender.com.
- If you're more interested in PCs than Political Correctness, you might well find a home for the Sun's new screensaver on your desktop. "Not available on a floppy disk, contains no viruses, keeps you abreast of the rest," says the inspired press release. You can customise your monthly calendar by choosing 12 women from more than 50 on the CD, and in a direct challenge to the likes of Microsoft, it even includes a year planner and an appointment book.



Sex guides and screensavers – all in a month's CD-ROM debauchery.

From BC to PC

return to paradise with Peter Gabriel

nce he wanted to be our sledgehammer but now he's happy playing the role of techno-prophet. Here's Peter Gabriel on multimedia: "I see it as a new language emerging in the future because all round the world music and graphics are being pumped down phone lines and the Internet, doing away with the barriers associated with text."

Gabriel is to follow-up last year's Explora CD-ROM with Eve, a disc being designed by Real World Multimedia. It's art, it's music and it's a CD-ROM. "I can be an artist who can function in any media I choose to," says Gabriel.

Eve is set in a paradise turned to mud. You dub music and mix an interactive video in your efforts to help Peter in his quest for Eve. Featuring the work of four different artists, the CD will also enable you to visit galleries, meeting philosophers, scientists and couples in and out of love.

"Nietzche said 'A good book should be like an axe to a frozen lake'," notes Gabriel. "When an artist touches something real they have created a tool. Multimedia is a wonderful place for investigating art as a tool kit and that's the direction I want to see CD-ROMs go – encouraging people to take the roles of artists themselves." Amateur pop-deconstructionists can get Eve from their local software emporium from 11th September.



Typical. Just when you've found a quite stretch of beach, four more blokes with pink suitcases turn up



So many apples, so much human suffering. Can we skip knowledge and go for a Granny Smiths instead?

FREEBIES

Welcome software companies of the world. Leave your free promotional goodles at the door in a neat pile and get out! Yes it's time once again for our monthly mound of free stuff, including this month key fobs, posters and free access to the Net. Remember these offers are strictly first come, first served.

FREE POSTERS

Back in issue 47, PC Review looked at a game called CyberJudas, a strategy affair, where you get to play the US President doing special international intrigue stuff. It scored an impressive nine out of ten, but never made it into the stores. Now, at last, you can buy CyberJudas, and to celebrate the release of this top game, and persuade us to give it another mention, Empire is giving away some goodles. The first five entries received will win CyberJudas T-shirts, while the next 100 postcard senders will get massive CyberJudas posters. Just write in with your name and address to:

CyberJudas Giveaway The Spires 677 High Road North Finchley London N12 0DA

FREE BADGES

Start your Wild West dressing box off with a Sheriff badge, courtesy of Infogrames. Made to promote the release of the lovely Alone in The Dark 3, these key badges (50 of them) are languishing in a box by the desk of the Infogrames PR manager. Send her a note, with your address and she'll send you one back. Oh, and by the way, you might want to look out for Alone in the Dark 1, now out on budget on Virgin's White Label at a very reasonable £9.99. Write to:

Alone in the pocket! 14 Smedley Street Clapham London SW4 6PF

FREE INTERNET FROM EUROPE ONLINE

A second appearance in freebies this month for the bargain Internet provider Europe Online. For gratis email and access to the Web, the 10 hour trial offered by Europe Online is a great way to get started. If you choose to stick around after your free trial has ended, you'll pay a reasonable subscription fee of just £3.95 a month. You'll need a modem, but calling 0800 106610 will get you the software and everything else you need.

EREC CLOTHES

W8 5RR

Virgin is a leading name in discreet promotional goodies. The company's clobber is always restrained, and most of the time you could wear it without people thinking that you and your PC have a special relationship. So, Virgin's debut appearance in Freebies sees it giving away five denim shirts - apart from the subtle VIE branding they could be a Gap items - and five T-shirts, with logos hidden away on the back. Write with your name and address and these desirable vetements could be yours. Write to: Doug Johns Freebie Frenzy Virgin Interactive Entertainment 2 Kensington Square London

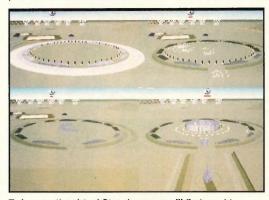
Next month: Even more free stuff. Yes.

STONED

Ancient monument gets modern Web site

Inglish Heritage, in partnership with Intel, has produced a VR version of Stonehenge. You can access the model over the Internet, and explore the prehistoric site before agriculture, tourism and pitched battles between crusties and cops changed the Summer Solstice scene forever.

Ten different perspectives of Stonehenge, from 8500BC to 2000AD, are at your mouse-tips. A sundial icon sends you flying through time, and you can approach the prehistoric stones from any direction. You can even witness a virtual Solstice. Professor Robert J. Stone, Director and Manager of VR Solutions, which produced the model, claimed the site demonstrated the



To browse the virtual Stonehenge, you'll first need to download a free copy of Superscape's 3D Viscape plug-in from the Intel Web site.

ever-increasing power of the chips inside our PCs. "Twelve months ago I wouldn't have believed it possible to render such a visually detailed virtual reality model of Stonehenge – plus the local terrain, the night time sky and real-time sunrise special effects – on anything other than a very expensive graphics supercomputer. Yet this is what we have achieved, on a Pentium Pro based Intergraph system," said Prof Stone.

Is it as remarkable as prehistoric man hulking dozens of gigantic stone monoliths across the British Isles, maybe centuries before some bright spark even considered cutting the pointy bits off his prototype wheel? Judge for yourself at http:\www.intel.com.



So-called new age worshippers no longer need to trek across the country and fight through a police barricade to get to the stones. Now that's progress for you.

Sony PC as easy to use as any

consumer product. It hopes to lure

uniting its product range under the

Video Audio Integrated Operation.

The Sony PC even comes with a

new operating system to augment

Windows 95, called VAIO Space. It

enables users to interact with the

machine in a virtual environment.

MHz Pentium processor, 16Mb of

RAM, 2.1Gb hard disk, a 28.8Kb

DSVD modem, eight speed CD

drive while the PCV-90 boasts a

modem and an eight speec CD

software bundle and Windows 95.

Gb hard disk drive, a 28.8Kb DSVD

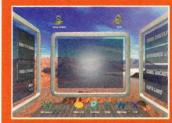
Sony's PCV-70 features a 166

customers to the Sony stable by

VAIO symbol, which stands for

Sony launches its first consumer PC

Sony, VAIO Baby



Reach out to the new Sony PC via the VAIO Space 3D interface.

You've heard the stereo and you've watched the TV, now try the PC. Sony, the world's second largest consumer electronics company, has unveiled two violet grey highend multimedia models, the PCV-70 and PCV-90.

"Sony owns the home," said Carl Yankowski, president of Sony PC components to be stackable, much like today's hl-fi components. "Computers have reached the point where they have the potential to be powerful entertainnoted. Revealing that the chip colossus Intel has been signed up to make the leading edge machines, he explained: "Sony's computer and consumer electronics experience allows us to begin smoothly integrating the PC into the home A/V environment to deliver an enjoyable PC experience.

Sony's mission is to make the



The future, or just a purple box from Sony?

THE CHART

Top Ten Selling PC CD-ROMs (Position last month in brackets)

- 6 (3)Command and Conquer
- **8** (5)Worms Ocean **9** (9)FIFA Soccer 96. . . E.A
- 10 (-)AH-64D Longbow E.A

New Musical Express on Internet

Hot on the heels of our music special last month comes *nme.com*, a Web version of the popular music weekly. Featuring editorial content from its print sister, the New Musical Express, *nme.com* offers news, reviews, interviews, features, chat and a gig guide.

There will be demos by new bands and a Camden Market page, likely to push as much dodgy music-related knick-knacks as its real world namesake.

Brendon Fitzgerald, the editor of nme.com, proclaimed: "With UK music in ascendancy all over the planet, now is the perfect time to unleash NME in a fresh and fun form to its global readers." Only a small selection of each week's material will go on-line, but it will be complemented by audio material unavailable to the paper's traditional readers.



Ash's 'Oh Yeah' was proclaimed single of the week in the launch issue of nme.com.

Elsewhere on the Net, Yamaha has signed an exclusive deal with Netscape, which could change online music for good. The deal makes Yamaha's Soft Synth the standard sound generator for the Web. In what Yamaha's Jim Corbett termed 'one of the biggest

launches in software history', users will be able to access music on the Net without either a sound card or downloading high memory wave data. Instead, Soft Synth utilises your processor to decode MIDI data.

This is far more compact than standard audio wave data and so enables entire musical compositions to be embedded in a home page. To hear Soft Synth in you'll first have to download the software component, which is now available free at http://www.yamaha.co.jp/english/xg.

THE WORKS IN BRIEF

- Autologic Data Systems is offering a range of home car care guides for motorists at the bargain price of £4.99.
 AutoDisc Pro covers ten popular cars, and includes instructions, diagrams, and a data guide to help you service your car in you own home (or at least out in the driveway or garage).
- WACOM has just bundled its ArtPad II graphics tablets with Fractal Designs' Dabbler drawing software. The package will be distributed through PC World, and is priced at £135.
- The world's first multimedia keyboard has just been released by Reveal Computer Products. Uniquely, it includes built-in speakers and a microphone. Applications range from voice recognition to video conferencing, with the keyboard especially useful when desk space is at a premium.
- Anyone developing a multimedia application might consider using Power! Video Pro from Horizons Technology to meet their video compression needs. It is an intraframe codec that is said to compress four times faster than Cinepack and ten times faster than MPEG 1. Most significantly, playback is absolutely free, with no playback licence required. See demo clips at www.horizons.com.
- ●"This device goes beyond simple scanning to give a full electronic office on the desktop," said Patrick Ramseyer, managing director of Sicos in Northern Europe of his company's Document Management System 2000. Boasting a top resolution of 800dpi and recognising 256 shades of grey, the compact scanner can handle documents from paper scraps up to full size A4 and costs £130.



Prolink Microsystems claims its new PixelView Combo TV Plus, a video playback/desktop TV card, offers the best graphics performance in the industry. It also includes features such as a 122channel cable-ready TV tuner, video-in-awindow and an optional remote control. The card is based on Cirrus Logic's VisualMedia Accelerator and TV Decoder, playing CD-ROM video clips at 30 frames a second.

COMPLETE CONTROL

Have you waggled your stick beyond exhaustion? Contemporary Games has just let loose two tempting new models – a joystick and a joypad. The Acemaster 18 is for the Top Guns amongst us, a joystick bristling with hat switches, turbo selectors and X and Y trimming. Alternatively, if you're thinking of switching to joypads, the Megapad XII is a lively contender, with six fire buttons, an eight directional thumbpad and a turbo speed selector.



Mind-reading PCs are on the way

he world's first commercial mind-reading computer system is now being evaluated by the US Air Force. The Cyberlink Human Computer Interface, a sensory-loaded headband that plugs into a PC, has applications ranging from missile and wheelchair co-ordination to telepathic Tetris.

Scientists have long dreamt of machines directed by the power of thought. Recent advances in electroencephalography – which you'll recognise as the medical technique commonly used to locate brain tumours – have enabled the construction of the bio-amplifier at the heart of Cyberlink. Dr Andrew Junker, who designed the system, explains: "[Cyberlink] looks for electrical activity in particular frequency bands, called alpha, beta and theta." By consciously shifting between these states, trained users are able to control simple computer programs.

The US Air Force, in conjunction with Stanford University, is currently testing the system and in demonstrations so far, a 36-year-old woman with cerebral palsy has learned to move a cursor around the screen. Meanwhile, as well as psychic *Tetris*, Dr Junker has developed an extrasensory shoot-'em-up and a version of billiards. Surely it's just a matter of time before we face clairvoyant *Quake*? Then they'll feel your fear.

INDECENT LAW DISSED

An American federal court has declared a new Net censorship law to be unconstitutional. The law, intended to protect children from pornography distributed via the Internet, would have let the American government prosecute any service provider who made explicit pictures and text available to minors. Penalties including a \$250,000 fine and two years imprisonment could have met those found guilty under the controversial law.

The ruling, by the US district court in Philadelphia, is good news for fast expanding communication companies such as America Online and Compu-Serve. "It means a gigantic world-wide sigh of relief," said Charles Marson, attorney for Netscape Communications. The court decided that the Internet was analogous to a, "never-ending world-wide conversation." As such the government had no right to interrupt it.

NEWS CONTACTS

Autologic Data Systems01590 683868
Cirrus Logic
Computers Unlimited0181200 8282
Contemporary Games01454855 050
Creative Labs01734 344222
GUS Electronic Retailing01905 618911
Horizons Technology0031235685558
Instant Access0181205 2596
Intel Corporation
Internet Network Services0181 296 9201
NMEnme.com
PC World0990464 464
Philips Media01719113030
Real World01225 743188
Reveal Computer Products .0181 8457400
Sierra01734 303322
Sony
Yamaha
YITM0113 243 8283



What you'll need to get your private CD-ROM industry up and running.



These start from about £500 for a bare drive, but average £700-£1200 each. They come in single, dual and quad speed configurations, although many can read data faster than they can write it. Only Philips drives can write PhotoCD format.

RECORDABLE CD'S

These come in capacities between 158 and 700Mb, and are capable of holding up to 80 minutes of stereo music. The brand you choose depends upon your budget and your requirements. TDK is the brand we use at PC Review.

SCSI INTERFACE

To attach your CD-ROM authoring hardware to your PC you'll need the correct interface. Luckily, 99 per cent of writers include a dedicated interface. If you don't already have an interface, we advise you to check out the Adaptec range.



LABELLING KIT

You can't write on CDs with a normal pen, but a labelling kit enables you to create labels on your printer and stick them on, to give an added layer of protection. We use the Neato kit.



AV DRIVE

To maintain a constant write speed. You can get by without one if you're only writing data, but for recording and writing music or animation, an AV drive is essential. We recommend the Micropolis.

LARGE HARD DRIVE

Unless you're using your writer to back up your hard disk, you'll need somewhere to store data while compiling a CD. 2Gb will give you space to store two or three CDs worth of info.



Burning your own CD-ROMs is easier now than it's ever been. And best of all, the prices of disc writers are falling every day. Isn't it time you started to roll your own?

potential, self-expression, enjoyment and functionality. A high-capacity, recordable storage medium offers many benefits, and manufacturers have been developing recordable CD technology as the answer for four or five years now. Yet even as recently as three years ago, so-called experts with extremely short technological memories were predicting that writable CD would never become an affordable reality for home users. They were wrong, as usual, and right now, you can go out and set yourself up with a home recording studio for under £1000. Okay, so a grand isn't exactly what you'd call loose change, but when you consider the creative, practical and financial potential of owning a CD writer, you'll appreciate that it's really more of an investment than money down the drain.

Now for a bit of background. A CD writer uses special blanks known as gold discs. These disks look the same as ordinary CDs except for their gold or metallic green coloration. This is due to a special layer in the resin which can be cut away using lasers. It's these lasers that are used to record information onto CDs.

In a sense, CDs work much like records. With a record, a continuous track is cut into the vinyl. A needle passing over that track vibrates into an amplifier which produces

music. With a CD, however, the track is not continuous. Instead, it's a series of holes and short grooves which represent the ones and zeros of binary data. These holes are far too tiny to be seen with the naked eve. The tracks are concentric and unlike a record CD-ROM information reads from the centre of the disc to the outside, rather than the other way around. The disc is read by a super-fine laser beam, which relays information back to a processor. This reconstitutes the binary sequence. Binary is the language of your computer, so the data needs no further translation. Because it's possible to encode audio and visual information digitally. CDs are equally at home storing music, movies or a copy of last year's accounts.

All current CD writers are SCSI devices, which means that they connect to your PC using a SCSI interface. Unlike hard drives, the CD writing process is extremely sensitive to any form of interruption, and even the slightest additional activity on a SCSI bus can be enough to trash a CD. As blanks currently cost about £7 each, and you can't overwrite data once it's been recorded, you really don't want to waste too many. For that reason, most writers operate from their own isolated SCSI card to avoid unwanted interruptions. A constant flow of data from the hard drive is also important, especially



You can make up your own music compilations, or even convert old tapes or vinyl into audio CD.

when dealing with audio or visual data. While you can attempt to use an ordinary, high speed hard drive for storing information prior to writing a CD, this can lead to a loss rate as high as one in ten CDs. To avoid this, you'll need a special hard drive known as an AV drive which provides the continuous, steady data rate required.

When you buy a drive, it should come with a selection of software for writing data in a variety of formats. Unless you buy a Philips drive, you won't be able to write PhotoCD format, but the Hewlett Packard drive we've been using for this feature can manage every other format. The software is easy

CD REVIEW

Learn about CD-ROM authoring with the One Minute Guide on this month's CD Review.

Coming soon

In two months' time, PC Review will be taking a look at some of the CD writers that are available and asking which is the best one for you?

CDs are equally at home storing music, movies or a copy of last year's accounts.

And for further information...

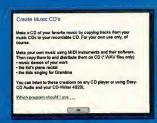
On CD Review, we bring you an interactive program called the One Minute Guide. Normally supplied with the Hewlett Packard Surestore 4020l writer, it's packed with advice.



Running the program you'll be taken through a series of menus and screens about writing CDs.



Four areas of CD authoring are covered, including music CDs, archive files and backups.



Can't help feeling, though, that the software glosses over copyright issues.



The One Minute Guide also goes through the software used to write your own discs.

FIVE GREAT THINGS YOU CAN DO WITH A CD WRITER...

c.D WRITER...

1. Make your own
music compilations by
copying the data
straight from your
existing CDs, then
writing them onto new
CDs. Or you can record
original albums using a
sound card.

2. Hard drive backups.
If you copy all the
essential files from your
hard drive onto a CD,
it's an easy task to

essential files from your hard drive onto a CD, it's an easy task to restore your hard drive should the data ever become damaged.
3. Build a media library by storing clip art or audio files.
4. Make your own multimedia presenta-

tions. The capacity of a

CD enables anyone to

create them for work or

fun. Be the first person to send a multimedia

CV to a potential

employer!
5. You can make back
ups of your software
library, but if you
distribute them as
copies then that'd make
you a software pirate!
It can however save you
space on your hard
drive and the expensive

of tons of floppies.

Name	Size	Type	Modified	
ST C:\30SMAXXRES3 DLL	152KB	Application Extension	04/13/96 20 00 00	
ST C:\3DSMAX\BMM DLL	124KB	Application Extension	04/13/96 20:00:00	
\$1 C:\30\$MAX\CFGMGR.DLL	11KB	Application Extension	04/13/96 20 00 00	
ST C:\30SMAX\CLIENT.DLL	27Y.B	Application Extension	04/13/96 20:00:00	
1 CASOSMAXACORE.DLL	1732YB	Application Extension	04/13/96 20:00:00	
C:\3DSMAX\DEISL1.ISU	26KB	ISU File	05/17/96 01:18 34	
TC:\30SMAX\EXPRIDEL	30/.8	Application Extension	04/13/96 20:00:00	
S) CASOSMANAFLT DLL	1948	Application Extension	04/13/96 20 00 00	
ST C:\30SMAXNGCOMM DLL	20F.B	Application Extension	04/13/96 20:00:00	
S) C:\30SMAX\GEOM.DLL	37KB	Application Extension	84/13/96 20 00:00	
*] C:\3DSMAKGEX DLL	81KB	Application Extension	04/13/96 20 00 00	
ST C:\30SMAXNHEIDI DLL	267KB	Application Extension	04/13/96 20 00:00	
S C:\3DSMAX\HTK_MTLDLL	1718	Application Extension	04/13/96 20:00 00	
ST C:\30SMAXNHTK_TEXTELL	1208	Application Extension	04/13/96 20:00:00	
CA30SMAXAMANAGER.EXE	461.8	Application	04/13/96 20 00 00	
C:\30SMAX\MAXAUTH EXE	63KB	Application	04/13/96 20 00 00	
C:\3DSMAXNMESH.DLL	105KB	Application Extension	04/13/96 20:00 00	
C:\30SMAX\NURBS.DLL	28KB	Application Extension	04/13/96 20:00:00	
CA3DSMAXAPARTICLE.DLL	5KB	Application Extension	04/13/96 20 00:00	
CA3DSMAXAPATCH DLL	56KB	Application Extension	04/13/96 20:00:00	
E:\30SMAX\PLUGIN.INI	16.8	Configuration Settings	05/17/96 01:22.44	
C.\30SMAX\QUEUEMAN.EXE	372KB	Application	04/13/96 20:00:00	
C:\30SMAX\README.WRI	44KB	Write Document	04/13/96 20 00 00	
S C:\30SMAX\REST DLL	26Y.B	Application Extension	04/13/96 20 00 00	
C:\30\$MAX\RES2.DLL	57KB	Application Extension	04/13/96 20 00 00	
S) C:\3DSMAX\AUTHRES DLL	3KB	Application Extension	04/13/96 20:00:00	

Recording a CD is as simple as copying files in Explorer or File Manager. It's ideal for backing up your hard drive.

to use, but really is not optimised for flexibility. For that, you'll need a dedicated commercial package such as *WinonCD* which is available from CD Revolution. *WinonCD* will make the most of your CD

space, and writes all known data formats, including even the obscure ones.

Once you're set up, it's no effort whatsoever to start creating your own discs and the

possibilities really are endless. The most obvious use of a CD writer is to make backups of your hard drive. A normal CD can store about 650Mb of data, which is more than enough to back up all the really important stuff on your hard drive. Because

CDs are durable, you might even want to use them for archiving data that you don't use on a regular basis such as pictures, sound samples, MIDI files and even utility programs. If you're a bit more adventurous, you could even convert ordinary wave files into regular audio CD tracks and make up your own music CDs.

Unfortunately, using a double speed writer, each CD takes about half an hour to

write, so it's no substitute for mass production methods, although it's much faster than tape drives for archiving purposes. Whatever you choose to do, once written, the CDs behave just like any other commercial disc.

The upper (label)

side of writable CDs is

extremely fragile, and

if you scratch it, the

CD will be ruined.

However, you can't

use ordinary sticky

Once you're set up, it's no effort whatsoever to start creating your own discs. The possibilities are endless.

labels to protect it because the glue damages the surface. We recommend a commercial labelling kit such as the Neato. The labels use a special non-destructive glue formulation, and it comes with templates so you can print professional labels that will add

an invaluable layer of protection to your CDs. And finally there are the copyright issues to consider too. Writers can be used to copy most commercial music and program discs, but unlike floppy disks, where you're allowed to make a single copy for backup purposes, no such provision is made with CD products. You might be tempted to consider putting all your games onto a CD and lending them to your friend. Don't. It will lead to trouble. And if you make up unique compilations of your favourite music tracks culled from your CD collection, you still run the same risks as you would if you were engaging in home taping. So beware! They'll get ya. (MB)

Publishing your own CD-ROM in 10 steps

Planning is all important and will save you burning poor discs, thus saving you readies. Before starting the project, consider carefully your market, your free time and your funds.

2 Choose your CD-ROM authoring software. Choice is currently limited, but we use *WinonCD* to produce CD Review every month.

3 Design your multimedia masterpiece using multimedia authoring software. You could use Macromedia Director, Authorware, or even Scala MM100 (reviewed on page 90).

Convert any printed documentation to electronic form and decide how you want to hyperlink the various texts in your document. Use the multimedia authoring software to set up these links.

5 Scan in the required graphics.
Remember that larger graphics will take longer to load up. While you're thinking visually you might also design the CD-ROM cover.

Test your CD image runs okay from the hard drive.

7 It's a good idea to defragment the hard drive containing your CD image. This will speed up access times.

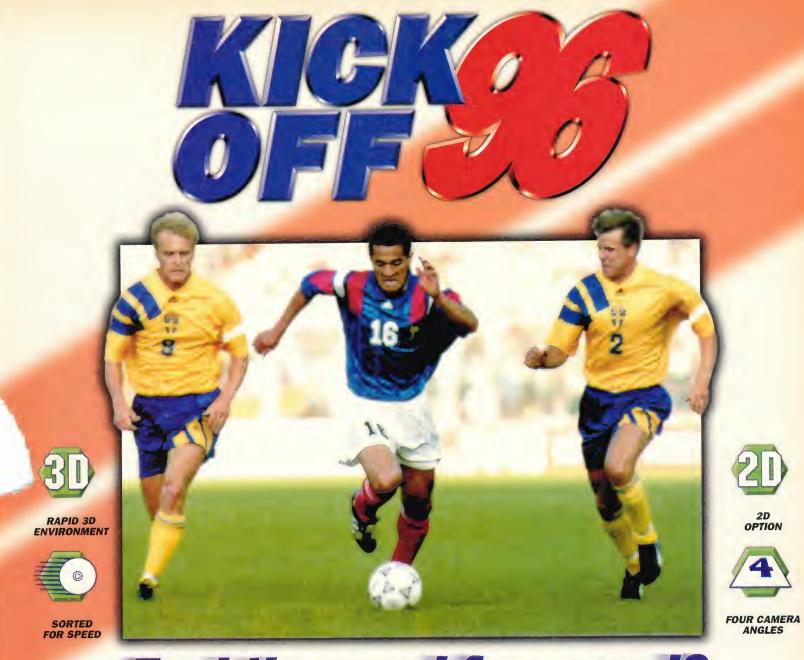
Despite all this high-technology, you might still want to produce a printed user manual! This need only be a few sheets of paper with the installation details. But if there's anything tricky about using your disc, explain it first.

Qut your first CD, and test that everything works. We test the CD Review disc on several PCs just to make sure everything you need to run the disc is on it and not on our mastering hard disk.

1 OProduce your writable one-off CD-ROMs for final testing and fortune-raking. You're there.

Phone book

CD Revolution - 01932 562000 Hewlett Packard - 01344 360000 Micropolis - 01734 751315 Neato Multimedia Replication -01264 336330 Quantum - 01344 353000 TDK - 01737 773773



Feel the need for speed?

Kick Off '96 gives you the chance to make an impact on the biggest event in British football for thirty years.

The action is lightning fast with uncompromising gameplay, fluid animation, and a spectacular 3D environment.

If winning *Euro '96* isn't enough for you, set up your own teams choosing from forty-nine international sides — Albania to Yugoslavia.

Create your own dream teams and play in national, cup and international competitions.

On Sale 5th June • PC CD-ROM: £34.99 • PC 3.5": £24.99 • Amiga 500 & 1200: £19.99



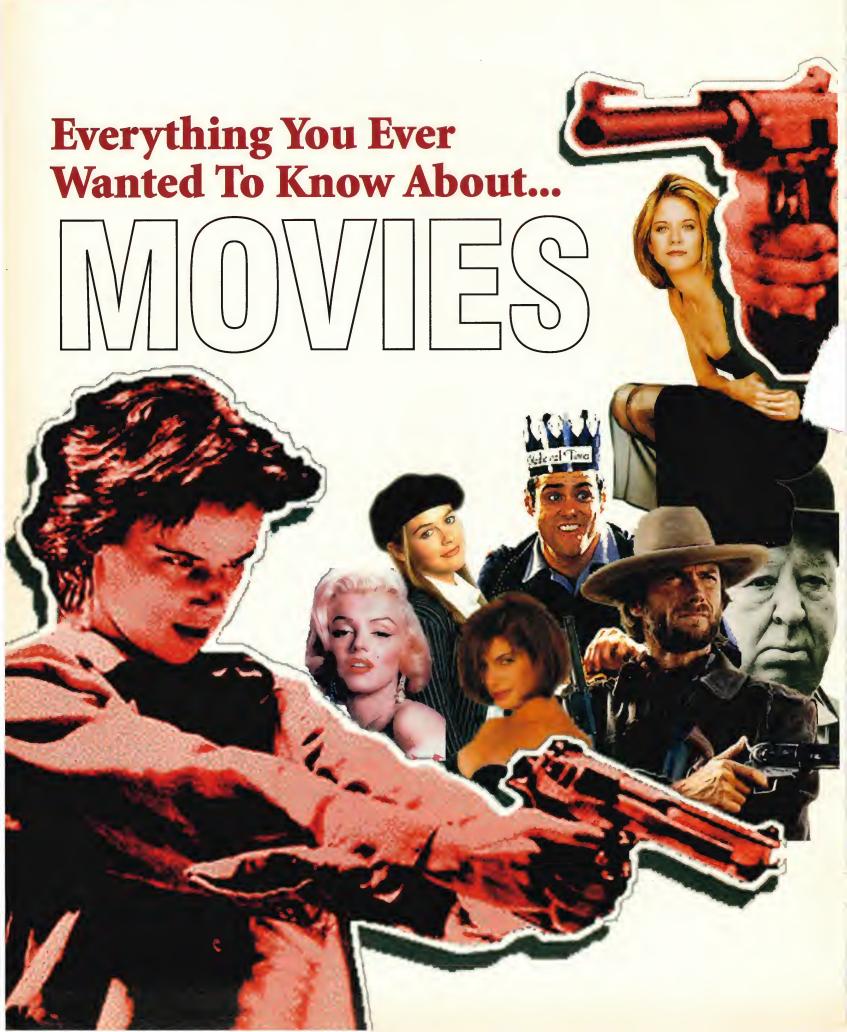








ARCADE AND SIMULATION • FOUR CAMERA ANGLES • 8000 FRAMES OF ANIMATION GIVING FLUID MOVEMENT • 49 INTERNATIONAL TEAMS 750 PREMIER LEAGUE TEAMS • 15,000 REAL PLAYERS WITH VARIED SKILL LEVELS • DREAM TEAMS AND MASSIVE DATABASE





Best Movie Site On The Net - EVER!



If you're going to click for flicks, there really is only one site that should be barking at your bookmarks on a daily basis. Mr Showbiz, the glitzy, frisky entertainment e-zine has it all. Their Celeb A to Z Star Bios section puts most homage pages to shame, their daily updated and bitchily opinionated movie news delivers super scoops with a sly growl and a knowing wink. Best of all, their harsh-but-fair movie reviews not only deliver real critical clout but Mr Showbiz's pack of Hollyhacks even comes screaming back from screening rooms to hurl the odd exclusive on-line. With snazzy design, sassy sarcasm and a roguishly wonderful regular column by Tony Hendra aka lan Faith from out of Spinal Tap, the utterly independent Mr Showbiz would rather ooze class than kiss Hollywood's arse.

Even better than the reel thing? Yeah, always nice to hear that one again isn't it...

Mr Showbiz can be found at

Sites! Cameras! Time to probe the electro dimension and click through the pick of the flicks on the Net and CD-ROM.

irst, what anyone with a modem already knows: when Miss Internet meets with Mr Movies their most memorable moments of media-melding are spent in Cardiff, home of the Internet Movie Database, an interactive extravaganza which houses every detail of every actor in every movie ever. Nearly. If the entire contents of the IMB were bound together in an Earth

book the resulting 19,786 volumes would take up the entire land area of Dartford town centre 16 times over. So please, don't even think of printing the bloody thing out.

Especially if you live in Dartford town centre.

Likewise, every CD drive owner already knows about Cinemania 96, Microsoft's world dominating (yawn) tome of celluloid seminalness. Over 20,000 films from around the world are mentioned (including made for TV ones). Most are covered with snippety reviews, though bigger flicks are judged by such cinematic scribes as Roger 'Thumbs Down' Ebert, Pauline Kael and Leonard Maltin. The 20-odd tip-top ones have video clips of important scenes, plus on-set stills, audio clips etc. It's all hyperlinked so you can browse the anal annuls of film clicketysplit. Glory be if you have a modem too as you can update Cinemania on-line through Microsoft's Explorer-accessed site.



Screaming Taranteenies!
Quent's Cult thrives on-line.

A cheaper, but only slightly less worthy choice on CD is the *Blockbuster Video Guide to Movies and Videos*. Its contents include 21,000 reviews and some 5000 photos. Maybe it lacks the flair and the critical authority of the big name reviewers in *Cinemania*, but at £20 you can't complain.

Anybody on the Net will be aware of the studios' heavy presence there. From MGM to Universal to Warner Bros to Buena Vista, each film factory has a showy page promoting

the pants off the greatest, latest and lamest releases. Acknowledged as the glossiest sites around, most are trashily flashy affairs, with each blandbuster boasting immaculate images, the odd interactive game and a blitz of next big thing biogs. But, Hell, you're paying them to look at their adverts, and new Net or not, that ain't the done thing.

The best that studio sites have to offer

the wired punter is video clips of upcoming films. But on-line time is money, right? Bursting its cyberguts with the plushest previews is *The Trailer Park*, the most comprehensive sneak-peek

resource on the Web. Up-to-date, independent and now with an archive of over 200 past clips, this is the site to see.

http://www.showbiz.com

But are these clips just compact parts of films actually worth seeing or not? As for Earth magazines, both Empire and Premier have respectable enough Web sites with reviews, news and magazine features. As with most mags shoved on-line, they do seem to be a promotional afterthought. You could say the same of Flicks, the glossy freebie often kicked under the seats to rot away with the King Cone wrappers. This, however, has an excellent, regularly updated home page, servicing the UK with release info and screen trivia. The content, though, is mainly American. As are most cine e-zines. Hollywood Online is fine for interviews and tinslechat, but what about, like, depth. Scuttle up to the podium, Film Scouts and let out a phoney sob as PC Review awards you with the Best New E-Zine What Covers Foreign Movies Award. Relatively new to the Web, and with a Virtual Cinema navigation theme that actually works, from mainstream

CD-ROMs

Braveheart £34.99 Koch 01252 714340

Blockbuster Video Movies and Video Guide £19.99 CentreGold 0121 625 3388

Cinemania 96 £40 Microsoft 0345 002000

Forrest Gump £34.99 Philips Media 0171 911 3094

Rob Roy £29.99 Philips Media 0171 911 3094

Stars de Cannes £34.99 Koch 01252 71434



From MGM to Universal to Warner Bros to Buena Vista, each film factory has a showy page promoting the pants off the greatest, latest and lamest releases.

WEB SITES

Woody Allen http://www.idt.unit .no/~torp/woody

ASG Anti-FAQ http://www.rt66.com /~ulopez/afaq.htm

Sandra Bullock http://www.matrix. de/sandra-bullock

David Cronenberg http://www.netlink. co.uk/users/zappa/c ronenberg.html

Clint Eastwood http://www.powernet.net/~cal/eastwood.lttml

Drew's Scriptorama http://home.cdsnet.ne t/~nikkou/scripts.htm

Empire http://www.erack.com/EMPIRE/

Film Scouts http://www.filmscouts.com/

Flicks http://www.flicks.co.uk

Hitchcock http://nextdch.mty.it esm.mx/~plopezg/Ka plan/Hitchcock.html

Hollywood Online http://www.hollywood.com

Internet Movie Database http://uk.imdb.com

Steve Martin http://qlink.queensu.ca/~4kgd/steve/

Marilyn Monroe http://www.ionet.n et/~jellec/marilyn.html

MGM http://www.mgmua .com/

Mr Cranky http://internetplaza.net/zone/mrc ranky/

Premier http://www.preniiermag.com/hfm/ index.html

Tarantinoverse http://rmdwww.mr.ic.ac.uk/~ dan/tarantino/tara ntino.html

The Trailer Park http://lyre.mit.edu/~ deering/tpark.html

Warner Bros http://www.movies. warnerbros.com/

Universal http://www.mca.com/

Discs of thistle

Hollywood landed on Scotland last year, and hence Scotland landed on CD-ROM. We refer of course to Rob Roy and Braveheart, both of which were afforded CDs of hitherto unknown celtic ferocity.



Ocoor! Angus! No-one molests the cattle of an Irish... er, Scottish historical icon. Meet Liam Neeson's Rob Roy in the virtual highlands.



Oooor! Hamish! No-one camps in the glens of an Australian-American... er, Scottish historical icon. Mel Gibson bellows with Gaelic pride in Braveheart.



Microsoft's Cinemania 96 rates Jaws with four stars, and honours the film with a fully blow-up-able photo, dum-dum-dum-dump audio clip, tiny letter-box video clip, four reviews, plot outline, cast and credits list. This is about the fullest treatment any film gets on Cinemania.



Aw gee chucks, Forrest. You're all on CD-ROM. Yes, that's right. The nostalgic American blockbuster is fully detailed on disc. A large part of this CD focusses on the music that was used with the film, but there's also a full script and some insight into America in the days of Gump.



Peer into Doctor Casey's Cabinet at http://www.cat.pdx.edu/~caseyh/horror/index.html



The Electro-Usher guiding you through the, like, Virtual Screening Rooms may well be a tired wired concept worthy of a swift cyberslapping, but Film Scouts be a pick of the clicks. FACT.

to minor indie movie, it covers the lot with swanky style and critical bite.

Winning the equivalent award for CDs, by default, is *Stars de Cannes*, a stylish disc all about Europe's premier, palm frond frilled film festival. But slick as it seems at first, it

transpires that the disc's main features are mere slide shows on talents like Sharon Stone, Brigitte Bardot, Kirk Douglas and Hitchcock. It goes over the top on Depardieu. There are pictures of the hotels in Cannes, details on winning films each year and, curiously, an ad for Nescafé. After an hour or so this glorified photo album you'll need a cup.

As this is being typed, thousands of movie bores are ricocheting their bloke-invideo-shop chatter around the Web. But while sites like *The Teenage Movie Critic* offer up the odd insight, most on-line loudmouths aren't worth bothering with. Best leave it to the pros, eh? If you want honest opinions with well-informed arguments, it's best to ignore the bile-fuelled bias of *Mr Cranky*. Still the mean spirits and unique slating system are a refreshing if tart alternative to the Net's

over-population of hurray-for-everythings. Dare you to flame the grumpy old sod.

The Web's bloated belly of homage pages has only encouraged those suffering from Obsessive Anal Disorder. Now Yahoo can offer homage pages on every star from

tarrey On Laughing

The Cable Guy

Empire on-line hits you with

current movie features. Ow.

In The Movie

Schlock Horro

Shockers!

Chuck Norris to Laurence Olivier. Decent celebrity pages are hard to come by, and you can point a taunting finger at two specific species of Net nutters.

Firstly there are your attention-seeking geeks. How do you get more people to visit your electroden? You scan in a couple of star photos, list a couple of films they're in and, add

big flashing woefully misspelled headline, instant fan page! Yay? Nay. Hence the current glut of half-arsed efforts passing themselves off as De Niro/Nicholson/Pacino shrines knocking about the Net.

Then you've got the revoltingly devoted, who slap their poster plastered bedroom walls on-line and cyberslobber their stalker obsessions at the usual vacantly glamorous pin-ups. Although Winona Ryder, Meg Ryan and the worryingly young Christina Ricci all have far too many pages devoted to their

faces, it's Sandra Bullock who leads the way with a forehead-slapping 49 homage pages. Typical is *The Sandra Bullock Page* where you can stare at a massive gallery of stark Bullock naked pictures and refrain your brain from retaining fascinating Sandramation like "her ambition in life is to get Tom Jones' autograph". This is, of course, very exciting.

But star homage pages aren't all set-up by stalker-types. To see how it should be done look at the Clint Eastwood Page which covers every single Clint Flick ever with breezy ease. It maintains a balance between admiration and information, as does the slick Marilyn Shrine which only lets itself down with its Monroe stamp collection scans. Then there's Homage To Steve, a right smart Steve Martin site that wisely focuses on his wilder 'n' crazier Jerk times, and probably knows more about Steve's career than Steve does at the moment. CD-ROMing Clintists should see Eastwood, while Marilynites of a similar hardware persuasion may be interested in Bernard of Hollywood's Marilyn.

And if all this wide-eyed staring at the stars gets a bit much, as it will, you can always nab the antidote in the form of the deliciously bitchy ASG Anti-FAQ, a scurrilous gossip gobbing, randy scandal centre for celebrity sleaze-slinging, hurling libel pies in the faces of your not-so-favourite stars. (SC)

Free postage in UK

Credit cards

not charged until day

of despatch

Overseas Postage Europe £2.00 R. O. W. - £3.00 **ALL PRICES** INCLUDE VAT

Next Day Service

available £4.00

Cyberia 2 ... Cyberjudas ... Cybermage. Cyberstorm. Daley Thompson Dark Forces

Tel: 01268 531222

Fax: 01268 531177 EMail: SWFIRSTX@aol.com

VCI Spanish Gose VCI Windows French

VCI Word Games 9.99 PC ROM BUSINESS & LIFESTYLE

3D Interior Designer 19.99

9.99 9.99

9.99

Internet: http://home.aol.com/SWFIRSTX

1942 Pacific Air War 7th Sword of Mendor ... Actua Soccer Arcade Pool Battle Cruiser 3000AD 11.99 26.99 Cannon Fodder ... 10.99 21.99 Car and Driver 11.99 Centrefold Squares 4.99 Championship Manager 2 24.99 ... 11.99 Duke Nukern 2 ... Dune 2 ve of the Beholder 3 Eye of the Beholder 3 F1 Manager Fantasy Manager 95 96 ... Fatal Racing ... Fleds of Glory ... Flashback ... Football Glory ... Great Parking Company Iron Angel Kingpin 12.95 Legend of Kyrandia 10.99 Legions 21.99 Leinks Challenge 9.99 Link Schallenge 9.99 Link Challenge 18.99 Mario Teaches Typing 18.99 Mario Teaches Typing 18.99 Mavis Beacon For Kids Windows21.99 Mech Commander 24.99 Mickey & Crew Print Studio 28.99 Microprose Grand Prix 11.99 Value Hockey 10.99 RAC Rally Network Q 12.99 Sabre Team Sam & Max Seal Team Secret of Monkey Island ... Sensible Golf 15 Sensible World of Soccer 25 Sensible World of Soccer Euro Space Hulk Supremacy SVGA Harrier ...

cksuit Manager 2 . ma 7 the Black Gate....... ma Underworld

 Jitima Underworld
 10.99

 Jitimate Doom Flesh Consumed 19.49
 9

 Vacky Wheels
 9.99

 Worms
 21.99

 Wing
 9.99

 Z
 21.99

 Z
 11.99

PC ROM TITLES

J44 Across the Hinne th Guest. In Guest. In Guest In Guest In Guest In Vinetworks boolute Zero boolute Zero boolute Zero boolute Zero boolute Cura Soccer Cuta Soccer Cuta Soccer In Guester Children Collivation

29.99 **29.99**

dvanced Civilization

Allied General
Alone In the Dark Trilogy
(Alone In the Dark 1, 2 & 3)
American Civil War

Isle 3..... Iround Waterloo in Time.....al at Krondor ...

NH 64D Longbow

Dark Seed 2	27.99
Dark Seed 2 Dawn of Darkness Dawn Patrol Day of the Tentacle Deadline Deadline Deadly Skies Deathkeep Deathrap Dungeon Detcon 5 Detcor 5 Detcor 2 Descent 2 Descrution Derby Detroit Dig Discoord	11 00
Day of the Tentacle	11.99
Deadline	29.99
Deadly Skies	Call
Deathkeep	28.99
Defcon 5	28.99
Deluxe Strip Poker 2	6.99
Descent 2	29.99
Destruction Derby	31.99
Dio Dio	29 99
Discworld Doom 2 Doom 2 Screen Saver Double Trouble Dreamweb	34.99
Doom 2	36.99
Doom 2 Screen Saver	7.99
Double Irouble	12.00
Duke Nukem 2	9.99
Duke Nukem 3D	29.99
Dune	9.99
Dunggon Keeper	31 99
Dungeon Master 2	27.99
EA 10 CD Pack	12.99
(PGA Golf, Wing Comm 2, Sea	al
Double Trouble Dreamweb Duke Nukern 2 Duke Nukern 3D Dune Dune 2 Dungeon Keeper Dungeon Master 2 EA 10 CD Pack Team 8 7 Others) Fath Saine	0.00
Earth Seige Earth Seige Elder Scrolls 2 Daggerfall Espn Extreme Sports Essential Guide To Better Sex. Euro 96.	30.99
Espn Extreme Sports	22.99
Essential Guide To Better Sex	. 10.99
Euro 96	22.00
Extreme Rise of the Triad	17.99
Extreme Sports	22.99
Extreme Pinball Extreme Rise of the Triad Extreme Sports Eye of the Beholder 3 F1 Grand Prix Manager	9.99
F1 Manager	18.00
Fade To Black	. 33.99
Falcon 4	Call
Fantasy Manager 95 96	. 28.99 a ga
Fast Attack	. 23.99
Fields of Glory	. 12.99
FIFA International Soccer 06	
	31 99
First Encounters/Elite 3	31.99 12.99
First Encounters/Elite 3 Flashback	31.99 31.99 . 12.99
First Encounters/Elite 3 Flashback Flight of the Amazon Queen	31.99 31.99 . 12.99 9.99 26.99
First Encounters/Elite 3 Flashback	31.99 31.99 . 12.99 9.99 . 26.99 . 31.99
Fİ Grand Prix Manager FI Manager Fade To Black Falcon 4 Fantasy General Fantasy Manager 996 Fast Attack Fleds of Glory FleA International Soccer FIFA International Soccer FIF	31.99 31.99 . 12.99 9.99 . 26.99 . 31.99 9.99 30.99
First Encounters/Elite 3 Flashback Flight of the Amazon Queen Flight Unlimited Football Glory Full Throttle FX Fighter	31.99 .12.99 9.99 . 26.99 . 31.99 9.99 . 30.99 . 24.99
First Encounters/Elite 3 Flashback Flight of the Amazon Queen Flight Unlimited Football Glory Full Throttle FX Fighter Gabriel Knight Gene Machine	31.99 31.99 . 12.99 9.99 26.99 31.99 9.99 30.99 24.99 9.99
FX Fighter	31.99 31.99 . 12.99 9.99 26.99 31.99 9.99 24.99 Call 31.99
Full Infottle FX Fighter Gabriel Knight Gene Machine Gene Wars Gettysburg	. 30.99 . 24.99 9.99 Call . 31.99 . 28.99
Full Infottle FX Fighter Gabriel Knight Gene Machine Gene Wars Gettysburg	. 30.99 . 24.99 9.99 Call . 31.99 . 28.99
Full Infottle FX Fighter Gabriel Knight Gene Machine Gene Wars Gettysburg	. 30.99 . 24.99 9.99 Call . 31.99 . 28.99
Full Infottle FX Fighter Gabriel Knight Gene Machine Gene Wars Gettysburg	. 30.99 . 24.99 9.99 Call . 31.99 . 28.99
Full Infottle FX Fighter Gabriel Knight Gene Machine Gene Wars Gettysburg	. 30.99 . 24.99 9.99 Call . 31.99 . 28.99
Full Infottle FX Fighter Gabriel Knight Gene Machine Gene Wars Gettysburg	. 30.99 . 24.99 9.99 Call . 31.99 . 28.99
Full Infottle FX Fighter Gabriel Knight Gene Machine Gene Wars Gettysburg	. 30.99 . 24.99 9.99 Call . 31.99 . 28.99
Full Infottle: Fix Fighter Gabriel Knight Gene Machine Gene Wars Gettysburg Girls Girls Goblins 1 & 2 Goblins 3 Grand Master Chess Great Naval Battles Great Naval Battles Great Naval Battles 4 Gunship 2000	. 30.99 . 24.99 9.99 28.99 8.99 9.99 9.99 9.99 9.99 11.99 27.99
Full Infottle: Fix Fighter Gabriel Knight Gene Machine Gene Wars Gettysburg Girls Girls Goblins 1 & 2 Goblins 3 Grand Master Chess Great Naval Battles Great Naval Battles Great Naval Battles 4 Gunship 2000	. 30.99 . 24.99 9.99 28.99 8.99 9.99 9.99 9.99 9.99 11.99 27.99
Full Infottle: Fix Fighter Gabriel Knight Gene Machine Gene Wars Gettysburg Girls Girls Goblins 1 & 2 Goblins 3 Grand Master Chess Great Naval Battles Great Naval Battles Great Naval Battles 4 Gunship 2000	. 30.99 . 24.99 9.99 28.99 8.99 9.99 9.99 9.99 9.99 11.99 27.99
Full Infottle: Fix Fighter Gabriel Knight Gene Machine Gene Wars Gettysburg Girls Girls Goblins 1 & 2 Goblins 3 Grand Master Chess Great Naval Battles Great Naval Battles Great Naval Battles 4 Gunship 2000	. 30.99 . 24.99 9.99 28.99 8.99 9.99 9.99 9.99 9.99 11.99 27.99
Full Infottle: Fix Fighter Gabriel Knight Gene Machine Gene Wars Gettysburg Girls Girls Goblins 1 & 2 Goblins 3 Grand Master Chess Great Naval Battles Great Naval Battles Great Naval Battles 4 Gunship 2000	. 30.99 . 24.99 9.99 28.99 8.99 9.99 9.99 9.99 9.99 11.99 27.99
Full Infottle FX Fighter Gabriel Knight Gene Machine Gene Wars Gettysburg	. 30.99 . 24.99 9.99 28.99 8.99 9.99 9.99 9.99 9.99 11.99 27.99

John Madden 96	31.99
lov of Sex	19.99
Judge Dredd	21.99
Jurassic Park	. 9.99
John Madden 96. John Madden 96. July of Sex July of Sex July of Sex July of Sex Mines of Sex Mines of Sex Mines of Sex Mines of Magic Mings Quest 6 Mings Quest 7 Mings Quest 8 Mings Quest 9 Mings Qu	25.99
Kingdom of Magic	27.99
Kingpin	0.00
Kings Quest 7	27.99
Krazy Ivan	30.99
Krazy Ivan Lands of Lore 2 Lands of Lore 2 Lands bourly Hunter Last Bützkrieg Last Bounly Hunter Last Dynasty Legend of Kyrandia Leisure Suit Larry 5	7.99
Lands of Lore	12.99
Lands of Lore 2	Call
Last Blitzkrieg	31.99
Last Bounty Hunter	14.00
Last Dyridsty	10.99
Leisure Suit Larry 5	Call
Leisure Suit Larry Collection	24.99
(Leisure Suit Larry 1,2,3,5 & 6)	00.40
Lemmings 3D	30.49
Lighthouse	. 10.99
Links 386 Plus Courses	24.49
Links Castle Pines Course	18.49
Links Challenge	9.99
Links Coghill Course	. 18.99
Links Devil Island Course	. 18.99
Links Mauna Kea Course	18 00
Links Pinehurst 2 Course	. 18.99
Links Prarie Dune Course	. 18.99
Links Riviera Course	. 18.49
Clesure Suit Larry 1,2,3,5 & 6) Left Affack Chopper Lighthouse Lighthouse Links 386 Plus Courses Links Castle Pines Course Links Challenge Links Coghill Course Links Coghill Course Links Devil Island Course Links Devil Island Course Links Peris Island Course Links Peris Island Course Links Peris Piner Course Links Priehurst 2 Course Links Prieh June Course Links Priehurst 2 Course Links Christian 2 Course Links Christ	. 34.99
Little Big Adventure	11 00
Lords of Midnight	. 14.99
Lords of the Realm	. 23.99
Lost Admiral 2	. 27.99
Lords of Midnight	. 23.99 . 27.99 7.99 . 10.99
Lure of the lemptress	. 10.99
Manic Carnet Plus	11 99
Magic the Gathering	. 27.99
Manic Karts	. 15.99
Mano Teaches Typing	. 24.99
Master of Magic	. 13.99
Master of Orion	. 12.99
Mayis Reacon 4	27.99
Mavis Beacon for Kids Window	s 21.99
Mech Warrior 2	. 24.99
Mechwarrior 2 Expansion Pack	18.99
(Ghost Bears Legacy Mission	Disk)
Microproce Grand Prix	11 00
Microprose Grand Prix 2	30.99
Microsoft 3D Movie Maker	. 32.99
Microsoft Flight Sim 5.1	. 34.99
Millenia	. 24.99
Mano Teaches Typing Master of Magic Master of Orion Master of Orion Master of Orion Master of Orion 2 Mavis Beacon 4 Mechwarrior 2 Mechwarrior 2 Mechwarrior 2 Mechwarrior 2 Mechwarrior 7 Microprose Grand Prix Microprose Grand Prix Microprose Grand Prix 2 Microsoft 3D Movie Maker Microsoft 19th Sim 5.1 Millenia Monty Python Holy Grail Mortimer 8 Riddles of Medalion	23.00
Material City	20.00
Motor City	
Motor City	. 30.99
Wight	. 30.99
Nascar Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat	9.99 9.99 32.99 8.99 11.99 31.99 8.99 27.99 9.99
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NNLH Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm	9.99 9.99 32.99 8.99 11.99 31.99 8.99 27.99 9.99
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogie World of Combat (Commache, Wolfpack & Arm Fist)	
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Cesan Trader	9.99 30.99 32.99 32.99 8.99 11.99 27.99 27.99 23.99 oured
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Cesan Trader	9.99 30.99 32.99 32.99 8.99 11.99 27.99 27.99 23.99 oured
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Cesan Trader	9.99 30.99 32.99 32.99 8.99 11.99 27.99 27.99 23.99 oured
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Cesan Trader Offensive Qlympic Games Qlympic Soccer Qoperation Crusader	
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Cosan Trader Offensive Qlympic Games Qlympic Soccer Operation Crusader Orion Conspiracy	30.99 30.99 32.99 32.99 32.99 11.99 31.99 27.99 27.99 23.99 24.99 28.99 28.99 28.99 28.99
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Cosan Trader Offensive Qlympic Games Qlympic Soccer Operation Crusader Orion Conspiracy	30.99 30.99 32.99 32.99 32.99 11.99 31.99 27.99 27.99 23.99 24.99 28.99 28.99 28.99 28.99
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Cosan Trader Offensive Qlympic Games Qlympic Soccer Operation Crusader Orion Conspiracy	30.99 30.99 32.99 32.99 32.99 11.99 31.99 27.99 27.99 23.99 24.99 28.99 28.99 28.99 28.99
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Cosan Trader Offensive Qlympic Games Qlympic Soccer Operation Crusader Orion Conspiracy	30.99 30.99 32.99 32.99 32.99 11.99 31.99 27.99 27.99 23.99 24.99 28.99 28.99 28.99 28.99
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Trader Offensive Qlympic Games Qlympic Games Qlympic Soccer Operation Crusader Overford Perfect General 2 Perfect Pinball Perfect Sport (Jack Nicklaus Speate Feltion) Con The Rall Spead Feltion)	
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Trader Offensive Qlympic Games Qlympic Games Qlympic Soccer Operation Crusader Overford Perfect General 2 Perfect Pinball Perfect Sport (Jack Nicklaus Speate Feltion) Con The Rall Spead Feltion)	
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Casan Trader Offensive Olympic Games Olympic Games Olympic Socoer Orion Conspiracy Overford Perfect General 2 Perfect General 2 Perfect General 2 Perfect Sport (Jack Nicklaus Signature Editi On The Ball Special Edition) Perfect Strategy (Battle siles 2, Titans Legacy &	
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wollpack & Arm Fist) Cean Trader Offensive Olympic Games Olympic Games Olympic Soccer Operation Crusader Orion Conspiracy Overford Perfect General 2 Perfect General 2 Perfect Sport (Jack Nicklaus Signature Editi On The Ball Special Edition) Perfect Strategy (Eattle Isle 2, Titans Legacy &	
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wollpack & Arm Fist) Cean Trader Offensive Olympic Games Olympic Games Olympic Soccer Operation Crusader Orion Conspiracy Overford Perfect General 2 Perfect General 2 Perfect Sport (Jack Nicklaus Signature Editi On The Ball Special Edition) Perfect Strategy (Eattle Isle 2, Titans Legacy &	
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wollpack & Arm Fist) Cean Trader Offensive Olympic Games Olympic Games Olympic Soccer Operation Crusader Orion Conspiracy Overford Perfect General 2 Perfect General 2 Perfect Sport (Jack Nicklaus Signature Editi On The Ball Special Edition) Perfect Strategy (Eattle Isle 2, Titans Legacy &	
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wollpack & Arm Fist) Cean Trader Offensive Olympic Games Olympic Games Olympic Soccer Operation Crusader Orion Conspiracy Overford Perfect General 2 Perfect General 2 Perfect Sport (Jack Nicklaus Signature Editi On The Ball Special Edition) Perfect Strategy (Eattle Isle 2, Titans Legacy &	
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wollpack & Arm Fist) Cean Trader Offensive Olympic Games Olympic Games Olympic Soccer Operation Crusader Orion Conspiracy Overford Perfect General 2 Perfect General 2 Perfect Sport (Jack Nicklaus Signature Editi On The Ball Special Edition) Perfect Strategy (Eattle Isle 2, Titans Legacy &	
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wollpack & Arm Fist) Cean Trader Offensive Olympic Games Olympic Games Olympic Games Olympic Games Perfect Prinball Perfect General 2 Perfect General 2 Perfect General 2 Perfect Sport (Jack Nicklaus Signature Editi On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titans Legacy & Patrician) PGA Tour Golf 96 PGA Tour Golf 486 PGA Tour Golf 96 PGA	
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wollpack & Arm Fist) Cean Trader Offensive Olympic Games Olympic Games Olympic Games Olympic Games Perfect Prinball Perfect General 2 Perfect General 2 Perfect General 2 Perfect Sport (Jack Nicklaus Signature Editi On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titans Legacy & Patrician) PGA Tour Golf 96 PGA Tour Golf 486 PGA Tour Golf 96 PGA	
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wollpack & Arm Fist) Cean Trader Offensive Olympic Games Olympic Games Olympic Games Olympic Games Perfect Prinball Perfect General 2 Perfect General 2 Perfect General 2 Perfect Sport (Jack Nicklaus Signature Editi On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titans Legacy & Patrician) PGA Tour Golf 96 PGA Tour Golf 486 PGA Tour Golf 96 PGA	
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wollpack & Arm Fist) Cean Trader Offensive Olympic Games Olympic Games Olympic Games Olympic Games Perfect Prinball Perfect General 2 Perfect General 2 Perfect General 2 Perfect Sport (Jack Nicklaus Signature Editi On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titans Legacy & Patrician) PGA Tour Golf 96 PGA Tour Golf 486 PGA Tour Golf 96 PGA	
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wollpack & Arm Fist) Cean Trader Offensive Olympic Games Olympic Games Olympic Games Olympic Games Perfect Prinball Perfect General 2 Perfect General 2 Perfect General 2 Perfect Sport (Jack Nicklaus Signature Editi On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titans Legacy & Patrician) PGA Tour Golf 96 PGA Tour Golf 486 PGA Tour Golf 96 PGA	
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wollpack & Arm Fist) Cean Trader Offensive Olympic Games Olympic Games Olympic Games Olympic Games Perfect Prinball Perfect General 2 Perfect General 2 Perfect General 2 Perfect Sport (Jack Nicklaus Signature Editi On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titans Legacy & Patrician) PGA Tour Golf 96 PGA Tour Golf 486 PGA Tour Golf 96 PGA	
Nascar NBA 96 Need For Speed NHL Hockey NHL Hockey 95 NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wollpack & Arm Fist) Cean Trader Offensive Olympic Games Olympic Games Olympic Games Olympic Games Perfect Prinball Perfect General 2 Perfect General 2 Perfect General 2 Perfect Sport (Jack Nicklaus Signature Editi On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titans Legacy & Patrician) PGA Tour Golf 96 PGA Tour Golf 486 PGA Tour Golf 96 PGA	
Nyascar NBA 96 NBA 96 NBed For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Ocean Trader Olympic Games Olympic Soccer Operation Crusader Orion Conspiracy Overlord Perfect Brindla Perfect Sport (Jack Nicklaus Signature Editi On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titans Legacy & Patrician) PGA Tour Golf 8 Fila Soccer PGA Tour Golf 8 Fila Soccer PGA Tour Golf 96 PGA Tour Golf 95 Sawgrass PGA Tour Golf 96 Sawgrass PGA Tour Golf 97 PGA Tour Golf 98 PGA Tour Golf 97 PGA Tour Golf 98	
Nyascar NBA 96 NBA 96 NBed For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Ocean Trader Olympic Games Olympic Soccer Operation Crusader Orion Conspiracy Overlord Perfect Brindla Perfect Sport (Jack Nicklaus Signature Editi On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titans Legacy & Patrician) PGA Tour Golf 8 Fila Soccer PGA Tour Golf 8 Fila Soccer PGA Tour Golf 96 PGA Tour Golf 95 Sawgrass PGA Tour Golf 96 Sawgrass PGA Tour Golf 97 PGA Tour Golf 98 PGA Tour Golf 97 PGA Tour Golf 98	
Nascar NBA 96 NBA 96 NBed For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 NIHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Cosan Trader Offensive Qlympic Games Qlympic Games Qlympic Games Qlympic Games Qlympic Games Olympic Soccer Operation Crusader Orion Conspiracy Overford Perfect Sport (Jack Nicklaus Signature Editic On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titlans Legacy & Patriciar) PGA Tour Golf & Fila Soccer PGA Tour Golf 96 Spanish Bay PGA Tour	
Nascar NBA 96 NBA 96 NBed For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 NIHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Cosan Trader Offensive Qlympic Games Qlympic Games Qlympic Games Qlympic Games Qlympic Games Olympic Soccer Operation Crusader Orion Conspiracy Overford Perfect Sport (Jack Nicklaus Signature Editic On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titlans Legacy & Patriciar) PGA Tour Golf & Fila Soccer PGA Tour Golf 96 Spanish Bay PGA Tour	
Nascar NBA 96 NBA 96 NBed For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 NIHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Cosan Trader Offensive Qlympic Games Qlympic Games Qlympic Games Qlympic Games Qlympic Games Olympic Soccer Operation Crusader Orion Conspiracy Overford Perfect Sport (Jack Nicklaus Signature Editic On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titlans Legacy & Patriciar) PGA Tour Golf & Fila Soccer PGA Tour Golf 96 Spanish Bay PGA Tour	
Nascar NBA 96 NBA 96 NBed For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 NIHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Cosan Trader Offensive Qlympic Games Qlympic Games Qlympic Games Qlympic Games Qlympic Games Olympic Soccer Operation Crusader Orion Conspiracy Overford Perfect Sport (Jack Nicklaus Signature Editic On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titlans Legacy & Patriciar) PGA Tour Golf & Fila Soccer PGA Tour Golf 96 Spanish Bay PGA Tour	
Nascar NBA 96 NBA 96 NBed For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 NIHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Cosan Trader Offensive Qlympic Games Qlympic Games Qlympic Games Qlympic Games Qlympic Games Olympic Soccer Operation Crusader Orion Conspiracy Overford Perfect Sport (Jack Nicklaus Signature Editic On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titlans Legacy & Patriciar) PGA Tour Golf & Fila Soccer PGA Tour Golf 96 Spanish Bay PGA Tour	
Nascar NBA 96 NBA 96 NBed For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 NIHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Cosan Trader Offensive Qlympic Games Qlympic Games Qlympic Games Qlympic Games Qlympic Games Olympic Soccer Operation Crusader Orion Conspiracy Overford Perfect Sport (Jack Nicklaus Signature Editic On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titlans Legacy & Patriciar) PGA Tour Golf & Fila Soccer PGA Tour Golf 96 Spanish Bay PGA Tour	
Nascar NBA 96 NBA 96 NBed For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 NIHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Cosan Trader Offensive Qlympic Games Qlympic Games Qlympic Games Qlympic Games Qlympic Games Olympic Soccer Operation Crusader Orion Conspiracy Overford Perfect Sport (Jack Nicklaus Signature Editic On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titlans Legacy & Patriciar) PGA Tour Golf & Fila Soccer PGA Tour Golf 96 Spanish Bay PGA Tour	
Nascar NBA 96 NBA 96 NBed For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 NIHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Cosan Trader Offensive Qlympic Games Qlympic Games Qlympic Games Qlympic Games Qlympic Games Olympic Soccer Operation Crusader Orion Conspiracy Overford Perfect Sport (Jack Nicklaus Signature Editic On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titlans Legacy & Patriciar) PGA Tour Golf & Fila Soccer PGA Tour Golf 96 Spanish Bay PGA Tour	
Nascar NBA 96 NBA 96 NBed For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 NIHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Cosan Trader Offensive Qlympic Games Qlympic Games Qlympic Games Qlympic Games Qlympic Games Olympic Soccer Operation Crusader Orion Conspiracy Overford Perfect Sport (Jack Nicklaus Signature Editic On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titlans Legacy & Patriciar) PGA Tour Golf & Fila Soccer PGA Tour Golf 96 Spanish Bay PGA Tour	
Nyascar NBA 96 NBA 96 NBed For Speed NHL Hockey NHL Hockey 95 NHL Hockey 96 Noctropolis Normality Inc. Nova Storm Novalogic World of Combat (Commache, Wolfpack & Arm Fist) Ocean Trader Olympic Games Olympic Soccer Operation Crusader Orion Conspiracy Overlord Perfect Brindla Perfect Sport (Jack Nicklaus Signature Editi On The Ball Special Edition) Perfect Strategy (Battle Isle 2, Titans Legacy & Patrician) PGA Tour Golf 8 Fila Soccer PGA Tour Golf 8 Fila Soccer PGA Tour Golf 96 PGA Tour Golf 95 Sawgrass PGA Tour Golf 96 Sawgrass PGA Tour Golf 97 PGA Tour Golf 98 PGA Tour Golf 97 PGA Tour Golf 98	

Red Baron	. 9.99
- Hebed Assault 2 - Hed Baron - Hed Chost - Hedschift 2 - Henegade - Hesurrection - Herribution - He	27.99 37.99
Renegade	18.99
Retribution	. 9. 99
Revolution X	21.99
Rise of the Triads	10.99
Road Warrior	. 9.99
Sam & Max	10.99
Sampras Extrerne Tennis Screamball	11.99
Sea Lenends	19.99 28.99
Seal Team	11.49
Secret of Monkey Island Sensible Golf	21.99
Screamer Sea Legends Seal Team Secret of Monkey Island Sensible Golf Sensible World of Soccer Sensible World of Soccer Europe	23.99
20.99	
20,99 Settlers 2 Shadowcaster Shell Shock Shoot Em Off Shuttle	28.99
Shell Shock	27.99
Shuttle	10.99
Shell Shock Shoot Ern Off Shuttle Silent Hunter Silent Steel Sim Ant Classic Sim City 2000 Collection (Sim City 2000 Urban Renewal	27.99 33.99
Sim Ant Classic	9.99
(Sim City 2000 Collection	Kit &
Scenarios Vol 1)	9.99
Sim City Enhanced	10.99
Sim Earth Classic	9.99
Sim Isle	27.99
Sim Tower	27.99
Simon the Sorceror 1 & 2	12.99
Slipstream 5000	12.99
Scenarios Vol 1) Sim City Classic Sim City Enhanced Sim Earth Classic Sim Barm Classic Sim Isie Sim Life Classic Sim Iower Sim Ower Simon the Sorceror Simon the Sorc	. 22,99 n the
Space Hulk	8.99
Space Hulk & System Shock	14.99 33.99
Space Hulk Votba	. 11.99
(Wing Commander, Elite Plus &	
Space Ouest 4	9.99
Space Quest 5	9.99 27.99
(Wing Commander, Elite Pilus & Megatraveller 1) Space Ouest 4 Space Quest 5 Space Quest 6 Space Quest 6 Space Quest Collection (Space Quest 1,2,3,4,5) Speed Haste	. 19.99
(Space Quest 1,2,3,4,5) Speed Haste	22.00
	. 20.00
Sportsmasters	. 11.99
(Space Quest 1,2,3,4,5) Speed Haste	. 11.99
Sportsmasters (Indy 500,Pga Tour Golf,Europ Champions & Advantage Tenn Spycraft SSN21 Sea Wolf	. 11.99
Sportsmasters (Indy 500,Pga Tour Golf,Europ Champions & Advantage Tenn Spycraft SSN21 Sea Wolf Star Crusader	. 11.99
Sportsmasters. (Indy 500,Pga Tour Golf,Europ Champions & Advantage Tenn Spycraft SSIN21 Sea Wolf Star Crusader Star Hangers Star Trek 25th Anniversary	. 11.99
Sportsmasters (Indy 500,Pga Tour Golf,Europ Champions & Advantage Tenn Soycraft SSN21 Sea Wolf Star Crusader Star Rangers Star Trek 25th Anniversary Star Trek DS9 Harbinger Star Trek DS9 Harbinger	. 11.99
Sportsmasters (Indy 500,Pga Tour Golf,Europ Champions & Advantage Tenn Soycraft SSN21 Sea Wolf Star Crusader Star Rangers Star Trek 25th Anniversary Star Trek DS9 Harbinger Star Trek Next Generation Star Trek Omnipedia	. 11.99
Sportsmasters (Indy 500,Pga Tour Golf,Europ Champions & Advantage Tenn Soycraft SSN21 Sea Wolf Star Crusader Star Rangers Star Trek 25th Anniversary Star Trek DS9 Harbinger Star Trek Newt Generation Star Trek Omnipedia Starford Steel Panthers	. 11.99
Sportsmasters Indry 500, Pga Tour Golf, Europ Champions & Advantage Tenn Soycraft SSN21 Sea Wolf Star Crusader Star Rangers Star Trek 25th Anniversary Star Trek DS9 Harbinger Star Trek Next Generation Star Trek Next Generation Star Trek Omnipedia Starlord Steel Panthers Stornekeep	. 11.99
Sportsmasters (Indy 500 Pga Tour Golf, Europ Champions & Advantage Tenn Soycraft SSN2 T Sea Wolf Star Grusader Star Flangers Star Trek 25th Anniversary Star Trek DS9 Harbinger Star Trek Next Generation Star Trek Pennipedia Startord Steel Panthers Stonekeep Stork Strike Commander Strike Commander	. 11.99
Sportsmasters. (Indy 500,Pga Tour Golf,Europ Champions & Advantage Tenn Soycraft. SSN2 T Sea Wolf Star Crusader Star Rangers Star Tek 25th Anniversary Star Trek D59 Harbinger Star Trek Next Generation Star Trek Omnipedia Startord Stonekeep Stornekeep Stornekeep Storne	. 11.99
Sportsmasters (Indy 500,Pga Tour Golf,Europ Champions & Advantage Tenn Soycraft SSN21 Sea Wolf Star Crusader Star Rangers Star Tek 25th Anniversary Star Trek DSP Harbinger Star Trek DSP Harbinger Star Trek Omnipedia Starford Starford Steel Panthers Stomekeep Storm Strike Commander Strike 96 Strike Commander Sukhol SU27 Flanker	. 11.99
Soyoraft San Wolf Star Crusader Star Fangers Star Tek 25th Anniversary Star Trek 25th Anniversary Star Trek DS9 Harbinger Star Trek Next Generation Star Trek Omnipedia Starford Starford Star Starker Starbord Starbord Starbord Stonekeep Storem Strike Commander Strike Commander Strike Starbord Starbor	. 11.99 ean is) . 29.99 . 11.49
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf Star Crusader Star Rangers Star Trek 25th Anniversary Star Trek 25th Anniversary Star Trek DS9 Harbinger Star Trek West Generation Star Trek West Generation Star Trek West Generation Star Trek Denibers Starlord Starlord Starlord Starlord Strike Omnipedia Striker 96 Strip Pot Suknol SU27 Flanker Super Bubsy Super Heroes Super Stardust	. 11.99 ean is) . 29.99 . 11.49
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf Star Crusader Star Rangers Star Trek 25th Anniversary Star Trek 25th Anniversary Star Trek DS9 Harbinger Star Trek West Generation Star Trek West Generation Star Trek West Generation Star Trek Denibers Starlord Starlord Starlord Starlord Strike Omnipedia Striker 96 Strip Pot Suknol SU27 Flanker Super Bubsy Super Heroes Super Stardust	. 11.99 ean is) . 29.99 . 11.49
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf Star Crusader Star Rangers Star Trek 25th Anniversary Star Trek 25th Anniversary Star Trek DS9 Harbinger Star Trek West Generation Star Trek West Generation Star Trek West Generation Star Trek Denibers Starlord Starlord Starlord Starlord Strike Omnipedia Striker 96 Strip Pot Suknol SU27 Flanker Super Bubsy Super Heroes Super Stardust	. 11.99 ean is) . 29.99 . 11.49
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf SSN21 Sea Wolf Star Crusader Star Rangers Star Trek 25th Anniversary Star Trek 25th Anniversary Star Trek DS9 Harbinger Star Trek West Generation Star Trek West Generation Star Trek West Generation Star Trek West Generation Star Trek Dennipedia Starlord Starlord Starlord Starlord Strike Ommander Striker 96 Strip Pot. Suknol SU27 Flanker Super Bubsy Super Heroes Super Street Fighter 2 Turbo SVGA Harrier Syndicate Synnergist System Shock	. 11.99 ean is 29.99 e 11.49 e 25.99 e 11.49 e 27.99 e 33.99 e 33.99 e 35.99 e 10.99 e 26.99 e 10.99 e 26.99 e 10.99 e 26.99 e 26.99 e 10.99 e 26.99 e 10.99 e 26.99 e 10.99 e 26.99 e 10.99 e 10.9
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf SSN21 Sea Wolf Star Crusader Star Rangers Star Trek 25th Anniversary Star Trek 25th Anniversary Star Trek DS9 Harbinger Star Trek West Generation Star Trek West Generation Star Trek West Generation Star Trek West Generation Star Trek Dennipedia Starlord Starlord Starlord Starlord Strike Ommander Striker 96 Strip Pot. Suknol SU27 Flanker Super Bubsy Super Heroes Super Street Fighter 2 Turbo SVGA Harrier Syndicate Synnergist System Shock	. 11.99 ean is 29.99 e 11.49 e 25.99 e 11.49 e 27.99 e 33.99 e 33.99 e 35.99 e 10.99 e 26.99 e 10.99 e 26.99 e 10.99 e 26.99 e 26.99 e 10.99 e 26.99 e 10.99 e 26.99 e 10.99 e 26.99 e 10.99 e 10.9
Spycraft SSN21 Sea Wolf SSN21 Sea Wolf SSN21 Sea Wolf Star Crusader Star Rangers Star Trek 25th Anniversary Star Trek DS9 Harbinger Star Trek Os9 Harbinger Star Trek Oseneration Star Trek Oseneration Star Trek Omnipedia Starlord Starlord Starlord Starlord Strele Panthers Stonekep Stone Striker 96 Strip Pot. Sukhol SU27 Flanker Super Bubsy Super Heroes. Super Street Fighter 2 Turbo SVGA Harrier Syndicate Syndicate Syndicate Syndicate Syndicate Syndicate Syndicate Syndicate Syndicate Syntem Shock T Mek Tactical Manager Tek War Terminal Welcriby	. 11.99 ean is
Spycraft Short Sea Wolf Shar Zrusader Star Tek 25th Anniversary Star Trek 25th Anniversary Star Trek 25th Anniversary Star Trek 25th Anniversary Star Trek Act Generation Star Trek Omnipedia Starlord	. 11.99 agan is
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf SSN21 Sea Wolf Star Crussder Star Rangers Star Trek 25th Anniversary Star Trek 25th Anniversary Star Trek DS9 Harbinger Star Trek Next Generation Star Trek Next Generation Star Trek Commipedia Starlord Steel Panthers Stonekeep Stonekeep Storne Strike 96 Strip Pot. Strike 96 Strip Pot. Supp Bubsy Super Heroes Super Stardust	11.99 11.99 11.99 11.99 11.99 11.99 12.99 13.99 10.99 10.99 10.99 26.99 26.99 10.49 27.99 26.99 10.49 26.99 10.49 26.99 10.99 11.99 26.99 26.99 26.99 26.99 31.99 31.99 31.99 31.99 31.99 31.99
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf SSN21 Sea Wolf Star Crussder Star Rangers Star Tek 25th Anniversary Star Trek DS9 Harbinger Star Trek Next Generation Star Trek Next Generation Star Trek Next Generation Star Trek Commipedia Starlord Stonekeep Stonekeep Stonekeep Stonekeep Stonekeep Stonekeep Stonekeep Store Strike 766 Strip Pot. Sukhol SU27 Flanker Super Bubsy Super Heroes. Super Stardust Super Heroes Super Stardust Super Heroes Super Stardust Super Heroes Super Stardust Super Heroes Super Stardust Super	11.99 (19.1) (19
Spycraft Sharp Sha	11.99 (19.1) (19
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf SSN21 Sea Wolf Star Crusader Star Trek 25th Anniversary. Star Trek 25th Anniversary. Star Trek DS9 Harbinger Star Trek Next Generation. Strike 96. Strip Pot Sukhol SU27 Flanker Super Bubsy Super Bubsy Super Street Fighter 2 Turbo SVGA Harrier Synderation. Syndicate Synnergist Synnergist Syntem Shock T Mek Tactical Manager Terminal Velocity Termador Future Shock Termador Future Shock Terradde	11.99 (11
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf SSN21 Sea Wolf Star Crusader Star Trek 25th Anniversary. Star Trek 25th Anniversary. Star Trek DS9 Harbinger Star Trek Next Generation. Strike 96. Strip Pot Sukhol SU27 Flanker Super Bubsy Super Bubsy Super Street Fighter 2 Turbo SVGA Harrier Synderation. Syndicate Synnergist Synnergist Syntem Shock T Mek Tactical Manager Terminal Velocity Termador Future Shock Termador Future Shock Terradde	11.99 (11
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf SSN21 Sea Wolf Star Crusader Star Trek 25th Anniversary. Star Trek 25th Anniversary. Star Trek DS9 Harbinger Star Trek Next Generation. Strike 96. Strip Pot Sukhol SU27 Flanker Super Bubsy Super Bubsy Super Street Fighter 2 Turbo SVGA Harrier Synderation. Syndicate Synnergist Synnergist Syntem Shock T Mek Tactical Manager Terminal Velocity Termador Future Shock Termador Future Shock Terradde	11.99 (11
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf SSN21 Sea Wolf Star Crusader Star Trek 25th Anniversary. Star Trek 25th Anniversary. Star Trek DS9 Harbinger Star Trek Next Generation. Strike 96. Strip Pot Sukhol SU27 Flanker Super Bubsy Super Bubsy Super Street Fighter 2 Turbo SVGA Harrier Synderation. Syndicate Synnergist Synnergist Syntem Shock T Mek Tactical Manager Terminal Velocity Termador Future Shock Termador Future Shock Terradde	11.99 (11
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf SSN21 Sea Wolf Star Crusader Star Trek 25th Anniversary. Star Trek 25th Anniversary. Star Trek DS9 Harbinger Star Trek Next Generation. Strike 96. Strip Pot Sukhol SU27 Flanker Super Bubsy Super Bubsy Super Street Fighter 2 Turbo SVGA Harrier Synderation. Syndicate Synnergist Synnergist Syntem Shock T Mek Tactical Manager Terminal Velocity Termador Future Shock Termador Future Shock Terradde	11.99 (11
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf Star Crusader Star Tex Agnagers Star Tex D59 Harbinger Star Tex Agnagers Star Tex Next Generation Strike 7 Data Star Tex Next Generation Star Tex Next Generation Star Tex Star Generation Star Tex Star Generation Star Generation Star Tex Next Generation Tex Tex Euro-Fighter 2000 Them Park Tex Tex Euro-Fighter 2000 Them Park Theme Park Theme Park Theme Park Theme Skulls of the Toltecs Three Skulls of the Toltecs Three Skulls of AD & D 2 Thrunderfnawk 2 Tex Fighter Collectors CD Tile Fighter, Mission Disks 1, 1	11.98 (1.98
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf Star Crusader Star Tex Agnagers Star Tex D59 Harbinger Star Tex Agnagers Star Tex Next Generation Strike 7 Data Star Tex Next Generation Star Tex Next Generation Star Tex Star Generation Star Tex Star Generation Star Generation Star Tex Next Generation Tex Tex Euro-Fighter 2000 Them Park Tex Tex Euro-Fighter 2000 Them Park Theme Park Theme Park Theme Park Theme Skulls of the Toltecs Three Skulls of the Toltecs Three Skulls of AD & D 2 Thrunderfnawk 2 Tex Fighter Collectors CD Tile Fighter, Mission Disks 1, 1	11.98 (1.98
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf Star Crusader Star Tex Agnagers Star Tex D59 Harbinger Star Tex Agnagers Star Tex Next Generation Strike 7 Data Star Tex Next Generation Star Tex Next Generation Star Tex Star Generation Star Tex Star Generation Star Generation Star Tex Next Generation Tex Tex Euro-Fighter 2000 Them Park Tex Tex Euro-Fighter 2000 Them Park Theme Park Theme Park Theme Park Theme Skulls of the Toltecs Three Skulls of the Toltecs Three Skulls of AD & D 2 Thrunderfnawk 2 Tex Fighter Collectors CD Tile Fighter, Mission Disks 1, 1	11.98 (1.98
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf Star Crusader Star Tex Agnagers Star Tex D59 Harbinger Star Tex Agnagers Star Tex Next Generation Strike 7 Data Star Tex Next Generation Star Tex Next Generation Star Tex Star Generation Star Tex Star Generation Star Generation Star Tex Next Generation Tex Tex Euro-Fighter 2000 Them Park Tex Tex Euro-Fighter 2000 Them Park Theme Park Theme Park Theme Park Theme Skulls of the Toltecs Three Skulls of the Toltecs Three Skulls of AD & D 2 Thrunderfnawk 2 Tex Fighter Collectors CD Tile Fighter, Mission Disks 1, 1	11.98 (1.98
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf Star Crusader Star Tex Agnagers Star Tex D59 Harbinger Star Tex Agnagers Star Tex Next Generation Strike 7 Data Star Tex Next Generation Star Tex Next Generation Star Tex Star Generation Star Tex Star Generation Star Generation Star Tex Next Generation Tex Tex Euro-Fighter 2000 Them Park Tex Tex Euro-Fighter 2000 Them Park Theme Park Theme Park Theme Park Theme Skulls of the Toltecs Three Skulls of the Toltecs Three Skulls of AD & D 2 Thrunderfnawk 2 Tex Fighter Collectors CD Tile Fighter, Mission Disks 1, 1	11.98 (1.98
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf Star Crusader Star Tex Agnagers Star Tex D59 Harbinger Star Tex Agnagers Star Tex Next Generation Strike 7 Data Star Tex Next Generation Star Tex Next Generation Star Tex Star Generation Star Tex Star Generation Star Generation Star Tex Next Generation Tex Tex Euro-Fighter 2000 Them Park Tex Tex Euro-Fighter 2000 Them Park Theme Park Theme Park Theme Park Theme Skulls of the Toltecs Three Skulls of the Toltecs Three Skulls of AD & D 2 Thrunderfnawk 2 Tex Fighter Collectors CD Tile Fighter, Mission Disks 1, 1	11.98 (1.98
Soycraft SSN21 Sea Wolf SSN21 Sea Wolf SSN21 Sea Wolf Star Crusader Star Trek 25th Anniversary. Star Trek 25th Anniversary. Star Trek DS9 Harbinger Star Trek Next Generation. Strike 96. Strip Pot Sukhol SU27 Flanker Super Bubsy Super Bubsy Super Street Fighter 2 Turbo SVGA Harrier Synderation. Syndicate Synnergist Synnergist Syntem Shock T Mek Tactical Manager Terminal Velocity Termador Future Shock Termador Future Shock Terradde	11.98 (1.98

Ultimate Soccer Manager 2	21.99
Ultimate Socoer Manager Under a Killing Moon Under a Killing Moon Urban Runner US Navy Fighters US Navy Fighters US Navy Fighters US Navy Fighters Virtual Karts Virtual Fool Wirtual Karts Virtual Fool Wacky Wheels Us Admiral,Grandest Fleet & V Battles of South Pacific)	2.99
Urban Runner	30.99
US Navy Fighters Gold	7.99
Viper	30.99
Virtual Pool	24.99
Virtual Snooker	28.99
Wacky Wheels	9,99
(Lost Admiral, Grandest Fleet & V	Vw2
Battles of South Pacific)	19.99
War Zone (Harpoon, Greater Glory, Starship Pacific Islands & Fighter Wing)),
Pacific Islands & Fighter Wing) Warcraft 2	29.99
Warcraft 2 Wargame Cons Set 3 Warhammer Dark Crusaders	15.99
Warpammer Dark Crusaders	17.99 30.99
Waterworld	. Call
Waterworld Wetlands White Lines (Indycar, F1 Gp & Superkarts) Wing Commander Wing Commander	21.99
(Indycar, F1 Gp & Superkarts)	0.00
Wing Commander	9.99 8.99
Wing Commander 2 & Hi Octane	14.99
Wing Commander 4	38.99
Wipe Qut	30.99
Wooden Shins & Iron Men	28.99
World Class Rugby 95	14.99
World Cup Golf	22.99
Worms	26.99
X Comm Terror F/T Deep	27.49
X Fighters	33.99
X Wing Collectors CD	31.99 penal
(Indyear, F1 Gp & Superkarts) Wing Commander 2 Wing Commander 2 Wing Commander 2 & Hi Octane Wing Commander 3 Wing Commander 3 Wing Commander 4 Wipe Qut Wichaven 2 Wooden Ships & Iron Men World Class Rugby 95 World Cup Golf World Cup Golf World Roll Fever Worms X Comm Terror F7 Deep X K Wing Collectors CD X Wing Collectors CD X Wing Collectors CD Yursus 8 X Wing Collectors CD X Wing Enhanced, B Wing & Im Pursuit)	00.00
Z	20.99
PC ROM WIN 95 TITI	LES
Allied General	27.99
Atari 2600 Action Pack 2	11.99
Buried in Time	26.99
Chessmaster 4000 Turbo	28.99 24.99
Chessmaster 4000 Turbo	28.99 24.99 25.99
Chessmaster 4000 Turbo Command Aod Conqueror Cyberspeed	28.99 24.99 25.99 27.99 27.99
Chessmaster 4000 Turbo Command Aod Conqueror Cyberspeed D Farth Seige 2 Skyforce	28.99 24.99 25.99 27.99 27.99 28.99
Chessmaster 4000 Turbo Command Aod Conqueror Cyberspeed D Earth Seige 2 Skyforce Earth Worm Jim	28.99 24.99 25.99 27.99 27.99 28.99 28.99 22.99
Chessmaster 4000 Turbo Command Acd Conqueror Cyberspeed D Earth Seige 2 Skyforce Earth Worm Jim Espionage	28.99 24.99 25.99 27.99 27.99 28.99 22.99 Call
Chessmaster 4000 Turbo Command Aod Conqueror Cyberspeed D Earth Seige 2 Skyforce Earth Worm Jim Espionage Fire Fight Right Unlimited	28.99 24.99 25.99 27.99 27.99 28.99 22.99 Call 27.99 31.99
Chessmaster 4000 Turbo Command Aod Conqueror Cyberspeed D Earth Seige 2 Skyforce Earth Worm Jim Espionage Fire Fight Right Unlimited Frankenstein Gabriel Kright 2	28.99 24.99 25.99 27.99 27.99 28.99 22.99 Call 27.99 31.99 30.99
Chessmaster 4000 Turbo Command Aod Conqueror Cyberspeed D Earth Seige 2 Skyforce Earth Worm Jim Espionage Fire Fight Flight Unlimited Frankenstein Gabriel Knight 2 Hyperblade	28.99 24.99 25.99 27.99 27.99 28.99 Call 27.99 30.99 30.99 Call
Chessmaster 4000 Turbo Command Aod Conqueror Cyberspeed Dearth Seige 2 Skyforce Earth Worm Jim Espionage Fire Fight Flight Unlimited Frankenstein Gabriel Knight 2 Hyperblade Judge Dredd Mach Warrior 2	28,99 24,99 25,99 27,99 28,99 22,99 Call 27,99 31,99 30,99 Call 23,99 Call 23,99
Chessmaster 4000 Turbo Command Aod Conqueror Cyberspeed Dearth Seige 2 Skyforce Earth Worm Jim Espionage Fire Fight Flight Unlimited Frankenstein Gabriel Knight 2 Hyperblade Judge Dredd Mech Warior 2 Microsoft Golf Wer 2	28.99 24.99 25.99 27.99 28.99 2.2.99 Call 27.99 30.99 30.99 Call 23.99 31.99 26.99
Chessmaster 4000 Turbo Command Aod Conqueror Cyberspeed D Earth Seige 2 Skyforce Earth Worm Jim Espionage Fire Fight Flight Unlimited Frankenstein Gabriel Knight 2 Hyperblade Judge Dredd Mech Wamor 2 Microsoft Golf Ver 2 Mortimer & Middle of Medallion	28.99 24.99 25.99 27.99 28.99 2.2.99 Call 27.99 30.99 30.99 Call 23.99 26.99
Chessmaster 4000 Turbo Command Acd Conqueror Cyberspeed D Earth Seige 2 Skyforce Earth Worm Jim Espionage Fire Fight Fight Unlimited Frankenstein Gabriel Knight 2 Hyperblade Judge Dredd Mech Warrior 2 Microsoft Golf Ver 2 Mortimer & Riddle of Medallion NBA Jam Tournament Edition.	28.99 24.99 25.99 27.99 27.99 28.99 Call 27.99 31.99 30.99 Call 23.99 31.99 26.99
Chessmaster 4000 Turbo Command Aod Conqueror Cyberspeed D Earth Seige 2 Skyforce Earth Worm Jim Espionage Fire Fight Flight Unlimited Frankenstein Gabriel Knight 2 Hyperblade Judge Dredd Mech Warrior 2 Microsoft Golf Ver 2 Microsoft Golf Ver 2 Mortimer & Riddle of Medallion NBA Jam Tournament Edition PBA Bowling PBA Bowling Police Quest Swat	28.99 24.99 25.99 27.99 27.99 28.99 22.99 31.99 30.99 Call 23.99 26.99 27.99 27.99 27.99 27.99
Chessmaster 4000 Turbo Command Aod Conqueror Cyberspeed D Earth Seige 2 Skyforce Earth Worm Jim Espionage Fire Fight Flight Unlimited Frankenstein Gabriel Kright 2 Hyperblade Judge Dredd Mech Warrior 2 Microsoft Golf Ver 2 Mortimer & Riddle of Medallion NBA Jam Fournament Edition PBA Bowling Police Quest Swat Return Fire	28.99 24.99 25.99 27.99 27.99 28.99 Call 27.99 30.99 Call 23.99 30.99 26.99 27.99 27.99 27.99
Chessmaster 4000 Turbo Command Aod Conqueror Cyberspeed Darth Seige 2 Skyforce Earth Worm Jim Espionage Fire Fight Fight Unlimited Frankenstein Gabriel Knight 2 Hyperblade Judge Dredd Mech Warrior 2 Microsoft Golf Ver 2 Mortimer & Riddle of Medallion NBA Jam Tournament Edition NBA Jam Tournament Edition NBA Jam Tournament Edition NBA Jam Tournament Edition PBA Bowling Police Quest Swat Return Fire Santa Fe Mysteries Scrabble	28.99 27.99 27.99 22.99 22.99 30.99 26.99 27.99 22.99 27.99 22.99 30.99 30.99 22.99 27.90 27.90
Chessmaster 4000 Turbo Command Aod Connqueror Cyberspeed D Earth Seige 2 Skyforce Earth Worm Jim Espionage Fire Fight Flight Unlimited Frankenstein Gabriel Knight 2 Hyperblade Judge Dredd Mech Warnor 2 Microsoft Golf Ver 2 Mortimer & Riddle of Medallion NBA Jam Tournament Edition NBA Jam Tournament Edition NBA Jam Tournament Edition PBA Bowling Police Quest Swat Return Fire Santa Fe Mysteries Scrabble Slhockware Assault	28.99 27.99 28.99 28.99 27.99 28.99 28.99 28.99 28.99 28.99 27.99 28.99 28.99 27.99 28.99 27.90 27.90
Chessmaster 4000 Turbo Command Aod Command Aod Conqueror Cyberspeed D Earth Seige 2 Skyforce Earth Worm Jim Espionage Fire Fight Flight Unlimited Frankenstein Gabriel Knight 2 Hyperblade Judge Dredd Mech Wamor 2 Microsoft Golf Ver 2 Mortimer & Riddle of Medallion NBA Jam Tournament Edition NBA Jam Tournament Edition NBA Jam Tournament Edition SBA Bowling Police Quest Swat Return Fire Santa Fe Mysteries Scraibble Shockwave Assault Silent Thunder Simon the Sorceror 2	28.99 24.99 25.99 27.99 27.99 28.99 28.99 27.99 28.99 28.99 28.99 27.99 27.99 27.99 27.99 27.99 26.99 27.99 27.99 27.99 27.99 27.99 27.99 27.99 27.99 28.99 28.99
Chessmaster 4000 Turbo Command Aod Comqueror Cyberspeed D Earth Seige 2 Skyforce Earth Worm Jim Espionage Fire Fight Flight Unlimited Frankenstein Gabriel Knight 2 Hyperblade Judge Dredd Mech Warrior 2 Myorson Golf Ver 2 Mortimer & Riddle of Medallion NBA Jam Tournament Edition PBA Bowling Police Quest Swat Return Fire Santa Fe Mysteries Scrabble Shockwave Assault Silent Thunder Simon the Sorceror 2 Space Bucks	28.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 27.99 22.99 22.99 22.99 23.99 23.99 23.99 23.99 23.99 23.99 23.99
Chessmaster 4000 Turbo Command Acd Conqueror Cyberspeed D Earth Seige 2 Skyforce Earth Worm Jim Espionage Fire Fight Fight Unlimited Frankenstein Gabriel Knight 2 Hyperblade Judge Dredd Mech Warrior 2 Microsoft Golf Ver 2 Mortimer & Riddle of Medallion NSA Jam Tournament Edition NSA Jam Tournament Edition PSA Bowling Police Quest Swat Return Fire Santa Fe Mysteries Scrabble Shockwave Assault Silent Thunder Simon the Sorceror 2 Space Bucks Star Trek Generations Sukhol SUZY Flanker	28.99 25.99 27.99 28.99 28.99 21.27.99 21.27.99 30.99 30.99 30.99 31.99 27.99
Allied General Ancient Empires Aran 2600 Action Pack 2 Buried in Time Chaos Overlords Chessmaster 4000 Turbo Command Aod Conqueror Cyberspeed D Earth Seige 2 Skyforce Earth Worm Jim Espionage Fire Fight Flight Unlimited Frankenstein Gabriel Kright 2 Hyperblade Judge Dredd Mech Warrior 2 Microsoft Golf Ver 2 Mortimer & Riddle of Medallion NBA Jam Fournament Edition PBA Bowling Police Quest Swat Return Fire Scrabble Start Fe Mysteries Scrabble Scrabble Scrabble Shockwave Assault Silent Thunder Simon the Sorceror 2 Space Bucks Star Trek Generation Sukhol Suzz Flanker Thexder	28.99 25.99 27.99 28.99
Torins Passage	22.99 25.99 21.99
Torins Passage Ultimate Doom Flesh Consumed Urban Runner UISS Tippoderrora	22.99 25.99 21.99 29.99
Inexder Torins Passage Ultimate Doom Flesh Consumed Urban Runner USS Ticonderoga Warhammer Shadow of Rat	22.99 25.99 21.99 29.99
Inexder Tonins Passage Ultimate Doom Flesh Consumed Urban Runner USS Ticonderoga Warhammer Shadow of Rat X Com Apocalypse	22.99 25.99 121.99 29.99 27.99 27.99
Inexder Torins Passage Ultimate Doom Flesh Consumed Urban Runner USS Ticonderoga. Warhammer Shadow of Rat X Com Apocalypse Zork Nemesis	22.99 25.99 121.99 29.99 27.99 27.99 Call 30.99
Inexder Torins Passage Ultimate Doom Flesh Consumed Urban Runner USS Ticonderoga. Warhammer Shadow of Rat X Com Apocalypse Zork Nemesis PC BUSINESS & LIFEST	22.99 25.99 21.99 27.99 27.99 Call 30.99
Inexder Torins Passage Ultimate Doom Flesh Consumed Urban Runner USS Ticonderoga. Warhammer Shadow of Rat X Com Apocalypse Zork Nemesis PC BUSINESS & LIFEST	22.99 25.99 21.99 29.99 27.99 27.99 Call 30.99 14.99
Inlexider Torins Passage Ultimate Doom Flesh Consumed Urban Runner USS Ticonderoga. Warhammer Shadow of Rat X Com Apocalypse Zork Nemesis PC BUSINESS & LIFEST Expert 3D Home Design Expert 3D Landscape Design Expert 3D Landscape Design.	22.99 25.99 21.99 29.99 27.99 27.99 Call 30.99 14.99
Inlexider Torins Passage Ultimate Doom Flesh Consumed Urban Runner USS Ticonderoga. Warhammer Shadow of Rat X Com Apocalypse Zork Nemesis PC BUSINESS & LIFEST Expert 3D Home Design Expert 3D Landscape Design Expert 3D Landscape Design.	22.99 25.99 21.99 29.99 27.99 27.99 Call 30.99 14.99
Inlexider Torins Passage Ultimate Doom Flesh Consumed Urban Runner USS Ticonderoga. Warhammer Shadow of Rat X Com Apocalypse Zork Nemesis PC BUSINESS & LIFEST Expert 3D Home Design Expert 3D Landscape Design Expert 3D Landscape Design.	22.99 25.99 21.99 29.99 27.99 27.99 Call 30.99 14.99
Inexder Torins Passage Ultimate Doom Flesh Consumed Urban Runner USS Ticonderoga. Warhammer Shadow of Rat X Com Apocalypse Zork Nemesis PC BUSINESS & LIFEST	22.99 25.99 21.99 27.99 27.99 27.99 14.99 14.99 14.99 14.99 14.99

GSP Video Library
VCI Card Games Classic
VCI Easy To Learn Computing
VCI French A Level

Learning German Gose Mail List & Label Maker

9	3D Interior Designer	0.00
9	30 Interior Designer Autoroute Express BBC Garden Designer 2 Driving Instructor Driving Instructor 2 Early Essentials English Essential Maths	19.99
9	Driving Instructor	9.99
	Driving Instructor 2	22 90
)	Early Eccentials	14 99
,	English	14.99
	Essential Maths	14.99
9	Essential Maths Essential Science Expert 3500 Colour Clip Art Im Expert 3D Home Design Expert Astronomer For Windows	14.99
	Expert 3500 Colour Clip Art Im	19.99
,	Expert 3D Home Design	19.99
9	Expert Astronomer For Windows	14.99
à	Expert Card Game Classics	14.99
9	Expert Casino For Windows	14.99
H	Expert Astronomer For Windows Expert Card Game Classics Expert Crasmo For Windows Expert Crosswords Expert For Windows Expert For Windows Expert Labels For Windows Expert Italys For Windows Expert Ityping For Windows Expert Typing For Windows Flying Fingers French	14.99
9	Expert Diet For Windows	14.99
9	Expert Forms	14.99
a	Expert Labels For Windows	14.99
	Expert Maps For Windows	14,99
9	Expert Typing For Windows	14.99
9	Flying Fingers	16.99
9	French	14.99
9	German	14.99
9	GSP 1000 Fonts	19.99
9	GSP 1500 Photos	19.99
9	GSP 5000 Pictures	19.99
9	GSP Book Case	14.98
9	GSP British Encyclopedia	19,9
9	GSP Designworks 3	29.9
9	GSP Endangered Wildlife	14.00
9	Flying Fingers French German GSP 1000 Fonts GSP 1500 Photos GSP 5000 Pictures GSP Book Case GSP Bridsh Encyclopedia GSP Designworks 3 GSP Endangered Wildliff GSP Family Tree GSP Garden Designer GSP Music Store GSP National Lottery GSP Pressworks 2 GSP Schwartz Cusne	10.00
ı	GSP Garden Designer	19.98
	CCR National Letter	14.93
9	CCP Progrande 2	20.00
	CSP Sobwortz Cueino	10 0
	GSP Schwartz Cusine Happy Birthday Junior Essentials Kilk and Play Microsoft Encarta 96 Microsoft Encarta 96 World Atl	14 9
9	lunior Eccentials	14.00
9	Klik and Play	28 9
9	Microsoft Encarta 96	39.99
9	Microsoft Encarta 96 World Atl	39.9
9	Mini Office	19.9
9	Structured Spelling	14.9
9	VCI Animals Clip Art	14.9
9	VCI Borders & Backgrounds	14.9
9 9	VCI Business Clip Art	14.9
9	VCI Collectors Catalogue	19.9
all	VCI Countdown	19.9
		4 4 0
9	VCI Easy To Learn Computing	14.9
9	VCI Easy To Learn Computing VCI Easy To Learn Windows 95	14.9
9	VCI Easy To Learn Computing VCI Easy To Learn Windows 95 VCI Easy To Speak French	14.9 14.9 19.9
	VCI Easy To Learn Computing VCI Easy To Learn Windows 95 VCI Easy To Speak French VCI Easy To Speak German	14.9 14.9 19.9 19.9
9 9 all 9	VCI Easy To Learn Computing VCI Easy To Learn Windows 95 VCI Easy To Speak French VCI Easy To Speak German VCI Multimedia Jurassic Abc	14.9 14.9 19.9 19.9 14.9
9 9 11 9	VCI Easy To Learn Computing VCI Easy To Learn Windows 95 VCI Easy To Speak French VCI Easy To Speak German VCI Multimedia Jurassic Abc VCI Multimedia Windows French	14.9 19.9 19.9 14.9 14.9
9 9 all 9	VCI Easy To Learn Computing VCI Easy To Learn Windows 95 VCI Easy To Speak French VCI Easy To Speak German VCI Multimedia Jurassic Abc VCI Multimedia Windows French VCI Pro Design	14.9 19.9 19.9 14.9 14.9
9 11 9 9	VCI Easy To Learn Computing VCI Easy To Learn Windows 95 VCI Easy To Speak French VCI Easy To Speak German VCI Multimedia Jurassic Abc VCI Multimedia Urindows French VCI Po Design VCI Pro Design VCI Pro Publisher	14.9 19.9 19.9 14.9 14.9 19.9
9 9 11 9 9 9	VCI Easy To Learn Computing VCI Easy To Learn Windows 95 VCI Easy To Speak French VCI Easy To Speak German VCI Multimedia Jurassic Abc VCI Multimedia Windows French VCI Pro Design VCI Pro Deblisher VCI Professional CV Writer	14.9 19.9 19.9 14.9 14.9 19.9 14.9
9 9 9 9 9 9 9 9	VCI Easy To Learn Computing VCI Easy To Learn Windows 95 VCI Easy To Speak French VCI Easy To Speak German VCI Multimedia Jurassic Abc VCI Multimedia Windows French VCI Pro Design VCI Pro Publisher VCI Professional CV Writer VCI Special Occasions Vol 1 VCI Special Occasions Vol 1	14.9 19.9 19.9 14.9 14.9 19.9 14.9 14.9
9999999999	Microsoft Encarta 96 World Atl Miri Office Structured Spelling VCI Animals Clip Art VCI Borders & Backgrounds VCI Business Clip Art VCI Collectors Catalogue VCI Countdown VCI Easy To Learn Computing VCI Easy To Learn Windows 95 VCI Easy To Speak French VCI Multimedia Jurassic Abc VCI Multimedia Jurassic Abc VCI Multimedia Windows French VCI Pro Design VCI Pro Publisher VCI Pro Pusiland Cocasions Vol 1 VCI Special Cocasions Vol 1 VCI Special Cocasions Vol 2	14.9 19.9 19.9 14.9 14.9 19.9 14.9 14.9
994199999999999999999999999999999999999	VCI True Type Fonts	14.9
9911999999911	VCI Easy To Learn Computing VCI Easy To Learn Windows 95 VCI Easy To Speak French VCI Easy To Speak German VCI Multimedia Jurassic Abc VCI Multimedia Windows French VCI Pro Design VCI Pro Publisher VCI Special Qccasions Vol 1 VCI Special Qccasions Vol 2 VCI True Type Fonts	14.9
99119999991111	JOYSTICKS & ACCESSOR	14.9 IES
999999999999999999999999999999999999999	JOYSTICKS & ACCESSOR	14.9 IES
9911999 99991111999	JOYSTICKS & ACCESSOR	14.9 IES
999999999999999999999999999999999999999	JOYSTICKS & ACCESSOR	14.9 IES
9911999 9999911199991	JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 4 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade Acemaster 18 MX830 Joystick (Specialist Joystick Ch Compa	14.9 29.9 34.9 59.9 34.9 tible
9911999 99999111199991199	JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 4 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade Acemaster 18 MX830 Joystick (Specialist Joystick Ch Compa	14.9 29.9 34.9 59.9 34.9 tible
	JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 4 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade Acemaster 18 MX830 Joystick (Specialist Joystick Ch Compa	14.9 29.9 34.9 59.9 34.9 tible
	JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 4 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade 4 Meg 72 Pin PC Upgrade 6 Meg 72	14.9 29.9 34.9 59.9 34.9 tible
9911999 999991111999991199999999	JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 14 Meg 72 Pin PC Upgrade 28 Meg 72 Pin PC Upgrade 30 Meg 72 Pin PC Upgrade	14.9 29.9 34.9 59.9 34.9 tible) 67.9 84.9 47.9 29.9
9911999 999991111999991199999999	JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 4 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade Acemaster 18 MX830 Joystick (Specialist Joystick, Ch Compa CH F16 Combat Stick CH F16 Fighter Stick CH F16 Flight Stick CH F16 CH F16 Stick CH F16 CH F16 Stick CH F16 F18 Stick	14.9 29.9 34.9 59.9 34.9 (ible) 67.9 84.9 47.9 29.9
9911999 9999111199991199999999999999999	JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 4 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade Acemaster 18 MX830 Joystick (Specialist Joystick, Ch Compa CH F16 Combat Stick CH F16 Fighter Stick CH F16 Flight Stick CH F16 CH F16 Stick CH F16 CH F16 Stick CH F16 F18 Stick	14.9 29.9 34.9 59.9 34.9 (ible) 67.9 84.9 47.9 29.9
9911999 9999111199991199999999999999999	JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 4 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade Acemaster 18 MX830 Joystick (Specialist Joystick, Ch Compa CH F16 Combat Stick CH F16 Fighter Stick CH F16 Flight Stick CH F16 CH F16 Stick CH F16 CH F16 Stick CH F16 F18 Stick	14.9 29.9 34.9 59.9 34.9 (ible) 67.9 84.9 47.9 29.9
9911999 99991111999911999999119	JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 4 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade Acemaster 18 MX830 Joystick (Specialist Joystick, Ch Compa CH F16 Combat Stick CH F16 Fighter Stick CH F16 Flight Stick CH F16 CH F16 Stick CH F16 CH F16 Stick CH F16 F18 Stick	14.9 29.9 34.9 59.9 34.9 (ible) 67.9 84.9 47.9 29.9
9911999 999911119999911999999119	JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 1 4 Meg 72 Pin PC Upgrade 4 8 Meg 72 Pin PC Upgrade 4 8 Meg 72 Pin PC Upgrade 6 8 Meg 72 Pin PC Upgrade 7 16 Meg 72 Pin PC Upgrade 7 16 Meg 72 Pin PC Upgrade 7 16 Combat Stick 6 16 Fights Stick 7 16 F	14.9 29.9 34.9 59.9 34.9 59.9 47.9 29.9 47.9 79.9 67.9 82.9
9911999 9999111199999119999999119	JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 1 4 Meg 72 Pin PC Upgrade 4 8 Meg 72 Pin PC Upgrade 4 8 Meg 72 Pin PC Upgrade 6 8 Meg 72 Pin PC Upgrade 7 16 Meg 72 Pin PC Upgrade 7 16 Meg 72 Pin PC Upgrade 7 16 Combat Stick 6 16 Fights Stick 7 16 F	14.9 29.9 34.9 59.9 34.9 59.9 47.9 29.9 47.9 79.9 67.9 82.9
9911999 999991111999999999999119 1 99	JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 14 Meg 72 Pin PC Upgrade 15 Meg 72 Pin PC Upgrade 16 Meg 72 Pin PC Upgrade 16 Meg 72 Pin PC Upgrade 17 Meg 72 Pin PC Upgrade 18 MX830 Joystick (Specialist Joystick Ch Compa Stick 19 Height Stick 19 Height Stick 19 Height Stick 19 Height Stick 10 Hight Stick 10 High Speed Games Card 10 High Speed Games Card 11 For PCs with Speeds Betwe 17 Mhz & 120Mhz Including	14.9 29.9 34.9 59.9 34.9 59.9 47.9 29.9 47.9 79.9 67.9 82.9
9911999 9999911119999911999999119 1119999	JOYSTICKS & ACCESSOR JOYSTICKS & ACCESSOR 6 Meg 72 Pin PC Upgrade 1 4 Meg 72 Pin PC Upgrade 4 8 Meg 72 Pin PC Upgrade 4 8 Meg 72 Pin PC Upgrade 5 6 Meg 72 Pin PC Upgrade 6 6 Meg 72 Pin PC Upgrade 6 6 Meg 72 Pin PC Upgrade 7 6 Me	29.99 34.99 59.99 34.99 59.99 34.99 67.99 84.99 47.99 29.99 67.99 82.99 14.99
9911999 999991111999999999999119 1 99	JOYSTICKS & ACCESSOR JOYSTICKS & ACCESSOR 6 Meg 72 Pin PC Upgrade 1 4 Meg 72 Pin PC Upgrade 4 8 Meg 72 Pin PC Upgrade 4 8 Meg 72 Pin PC Upgrade 5 6 Meg 72 Pin PC Upgrade 6 6 Meg 72 Pin PC Upgrade 6 6 Meg 72 Pin PC Upgrade 7 6 Me	29.99 34.99 59.99 34.99 59.99 34.99 67.99 84.99 47.99 29.99 67.99 82.99 14.99
99 H 99 9 9 9 9 9 9 H H 9 9 9 9 9 9 9 9	JOYSTICKS & ACCESSOR JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 4 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade Acemaster 18 MX830 Joystick (Specialist Joystick, Ch Compa CH F16 Combat Stick CH F16 Fighter Stick CH F16 Flight Stick CH F16 Flight Stick CH F16 Flight Stick CH F16 Plight Stick CH F	14.9 29.9 34.9 59.9 34.9 59.9 34.9 67.9 84.9 47.9 29.9 49.9 79.9 67.9 82.9 11.9
99 ii 99 99 99 99 ii ii 99 99 ii 99 99 9	JOYSTICKS & ACCESSOR JOYSTICKS & ACCESSOR 6 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade Koemaster 18 MX830 Joystick (Specialist Joystick, Ch Compa CH F16 Combast Slick CH F16 Flight Slick CH F16 Flight Slick CH Flightstick CH Flightstick Pro CH Trrottle Pro Hydrual Pilot Pro High Speed Games Card (For PCs with Speeds Betwe 4.77Mhz & 120Mhz Including Pentium) Logic 3 Tornado Joystick Megapad Xii631M (PC 6 Button Pad With Individu	14.9 29.9 34.9 59.9 34.9 59.9 34.9 67.9 84.9 47.9 29.9 49.9 79.9 67.9 82.9 11.9
99 ii 99 99 99 9 ii ii 99 99 ii 99 99 99	JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 18 Meg 72 Pin PC Upgrade 18 Meg 72 Pin PC Upgrade 18 Meg 72 Pin PC Upgrade 19 Meg 72 Pin PC Upgrade 10 Meg 72 Pin PC Upg Peg Peg Peg Peg Peg Peg Peg Peg Peg Pe	14.9 29.9 34.9 34.9 559.9 34.9 67.9 84.9 47.9 29.9 49.9 11.9 11.9 11.9
99 ± 99 9 9 9 9 9 9 9 5 5 5 5 5 5 5 5 5	JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 18 Meg 72 Pin PC Upgrade 19 Meg 72 Pin PC Upgrade 19 Heightstick 19 Heightstick 19 Heightstick 19 Hightstick Pro 10 Hight	14.9 29.9 34.9 59.9 34.9 tible) 67.9 84.9 47.9 29.9 47.9 67.9 88.9 11.9 11.9 11.9 11.9 126.9
99 ii 99 9 9 9 9 9 9 9 ii ii 9 9 9 9 9	JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 18 Meg 72 Pin PC Upgrade 19 Meg 72 Pin PC Upgrade 19 Heightstick 19 Heightstick 19 Heightstick 19 Hightstick Pro 10 Hight	14.9 29.9 34.9 59.9 34.9 tible) 67.9 84.9 47.9 29.9 47.9 67.9 88.9 11.9 11.9 11.9 11.9 126.9
99mm999	JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 18 Meg 72 Pin PC Upgrade 19 Meg 72 Pin PC Upgrade 19 Heightstick 19 Heightstick 19 Heightstick 19 Hightstick Pro 10 Hight	14.9 29.9 34.9 59.9 34.9 tible) 67.9 84.9 47.9 29.9 47.9 67.9 88.9 11.9 11.9 11.9 11.9 126.9
99 ± 99 9 9 9 9 9 9 9 5 5 5 5 5 5 5 5 5	JOYSTICKS & ACCESSOR JOYSTICKS & ACCESSOR 6 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade Kopecialist Joystick, Ch Compa CH F16 Combat Stick CH F16 Flight Stick CH F16 Flight Stick CH F16 Flight Stick CH Flightstick Pro CH Trrottle Pro CH Virtual Pilot Pro High Speed Games Card (For PCs with Speeds Betwe 4.77Mhz & 120Mhz Including Pentium) Logic 3 Tornado Joystick Megapad Xii631M (PC 6 Button Pad With Individu Turbo Fire, 6 Foot Cable) Microsoft Home Mouse (Includes 18 Games) Mouse Mat Phantom 2 6 Button Joypad	14.9 29.9 34.9 59.9 34.9 tible) 67.9 84.9 47.9 29.9 47.9 67.9 88.9 11.9 11.9 11.9 11.9 126.9
99 H 99 9 9 9 9 9 9 H H 9 9 9 9 9 9 9 H H 9	JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 16 Meg 72 Pin PC Upgrade 18 Meg 72 Pin PC Upgrade 18 Meg 72 Pin PC Upgrade 19 Meg 72 Pin PC Upgrade 19 Meg 72 Pin PC Upgrade 10 Meg 72 Pin PC Upg 72 Pin	14.9 29.99 34.99 59.99 34.99 47.99 47.99 29.99 47.99 11.99 11.99 11.99 14.99
00mm0000 00000mmm00000mm00000000000000	JOYSTICKS & ACCESSOR JOYSTICKS & ACCESSOR 6 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade 6 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade 6 Heightstick 6 Heightstick 6 Heightstick 6 Heightstick Pro 6 Hrightstick Pro	14.9 29.9 34.9 59.9 34.9 59.9 34.9 67.9 84.9 47.9 29.9 47.9 29.9 49.9 11.9 11.9 11.9 14.9 14.9
99=1999 99999=1=199999=29999=99999999999	JOYSTICKS & ACCESSOR JOYSTICKS & ACCESSOR 6 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade 6 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade 6 Heightstick 6 Heightstick 6 Heightstick 6 Heightstick Pro 6 Hrightstick Pro	14.9 29.9 34.9 59.9 34.9 59.9 34.9 67.9 84.9 47.9 29.9 47.9 29.9 49.9 11.9 11.9 11.9 14.9 14.9
99 H 999 999 H H 999 99 H 299 99 H 299 999 9	JOYSTICKS & ACCESSOR 16 Meg 72 Pin PC Upgrade 1 4 Meg 72 Pin PC Upgrade 1 8 Meg 72 Pin PC Upgrade 1 6 Meg 72 Pin PC Upgrade 1 7 Meg 72 Pin PC Upgrade 1 7 Meg 72 Pin PC Upgrade 1 7 Meg 72 Pin PC Upgrade 1 8 Meg 72 Pin PC Upgrade 1 9 Meg 72 Pin PC Upg 7	14.9 29.9:34.9:59.9:tible) 67.9 84.9:47.9:9 47.9:9 67.9:82.9:9 11.9:9 11.9:9 14.9:9 13.9:6 Foo
99 H 999 9 99 99 H H 99 99 9 9 H H 99 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	JOYSTICKS & ACCESSOR JOYSTICKS & ACCESSOR 6 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade Koemaster 18 MX830 Joystick (Specialist Joystick, Ch Compa Stick CH F16 Fighter Stick CH F16 Flights Stick CH F16 Flights Stick CH Filghistick Pro CH Filghistick Pro CH Virtual Pilot Pro High Speed Games Card (For PCs with Speeds Betwe 4.77Mhz & 120Mhz Including Pentium) Logic 3 Tornado Joystick Megapad Xii631M (PC 6 Button Pad With Individu Turbo Fire, 6 Foot Cable) Microsoft Home Mouse (Includes 18 Games) Mouse Mat Phantom 2 6 Button Joypad (Programmable PC 6 Button Joypad (Programmable PC 6 Button Joypad (Four Fire Buttons, 2 Turbofire, Cable) Ouickshot Command Pad (Four Fire Buttons, 2 Turbofire, Cable)	14.9 29.9-9 34.9-9 59.9-9 15.9-9 16.9-9 17.9-9 11.9-9
00000000000000000000000000000000000000	JOYSTICKS & ACCESSOR JOYSTICKS & ACCESSOR 6 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade 8 Meg 72 Pin PC Upgrade Koemaster 18 MX830 Joystick (Specialist Joystick, Ch Compa CH F16 Fighter Stick CH F16 Flights Stick	11.9 29.9 34.9 34.9 34.9 34.9 47.9 47.9 47.9 49.9 47.9 49.9 49.9 11.9 11.9 11.9 11.9 11.9 11.9 11.9 11.9

IF YOU CAN'T SEE WHAT YOU WANT PLEASE CALL. NEW STOCK ARRIVING DAILY

Telephone Orders: Mon-Fri 9.30am - 7pm, Sat-Sun 10am - 4pm. Order Answerphone at all other times. Please send Cheques/POs payable to: SOFTWARE FIRST, UNIT 6 CAPRICORN CENTRE, CRANES FARM ROAD, BASILDON, SS14 3JJ. Some titles may not be released at time of going to press.

(Specialist Joystick)

Speed Mouse 4... Speed Mouse Pro

Je Video

With a video capture card you can be a player in the multimedia revolution. We review six of the best boards available...

hether you're a multimedia publisher or a student dabbling on the leading edge of technology, there are tons of things you can do with video footage if you can get it into your PC. Of course, you could just use commercial animation clips or pay professionals to record it for you, but there's nothing as exciting as being able to record and edit your own video footage.

To do that, you'll need a video capture card, and there are lots of interesting options available. All video capture cards are designed with a single end result in mind: to convert analogue video, TV or camcorder footage into a digital data stream that you can store and edit on your computer. What you can do with that footage depends upon

the duration and resolution of the footage you've recorded.

The digital data is stored using various encoding algorithms known as codecs. Some codecs provide high levels of quality, while others result in very compressed data files. Others still produce images with very good colour reproduction. Most capture cards are supplied with a couple of codecs, and although a few generic ones are available for anyone to use, many are specific to particular pieces of hardware. The one thing that all codecs have in common is the fact that they generate a universal file type known as a Video for Windows clip.

Clips of this type are identified by the three letter suffix AVI, which stands for Audio/Video Interleaved, Some types of codec (and their resultant AVI files), can only be replayed on computers with the correct hardware acceleration chips in them, and these chips are generally to be found on video capture cards. They enable the PC to perform faster or more complex compression techniques than would otherwise be possible. This in turn means larger video frames, a faster replay rate and more colour.

With the best codecs and hardware, you can record footage at a level of quality that's superior to normal TV. With such cards you can output your work back to video tape. Cheaper systems enable you to produce high quality half or quarter screen AVI clips perfect for multimedia applications, whether it's a digital catalogue for estate agents or a video resumé for enterprising job seekers. There are cards for every need, so here's your chance to find the perfect one for you.

DEVELOPER Video Logic SUPPLIER Video Logic CONTACT 01923 260511 PRICE £116.33

The Captivator isn't highly specified, but its low price and its ease of use make good for beginners.



Developer Aztech SUPPLIER

CAPTIVATOR

Ithough it's probably the oldest, and it's certainly the least powerful of all the capture cards here, there's still a niche for the Captivator card. At £100, it's cheap, and you could argue that its lack of features imbues it with a simplicity that perfectly matches the target audience. It's not plug and play, but nor is it remotely difficult to set up, so it must be well designed.

The Captivator doesn't provide any sort of hardware acceleration at all, so the resolution of any animations captured with it, are

limited. VideoLogic includes its own YUV codec, enabling the capture of hi-color clips at quarter screen size. If you try for a full 24bit capture, you'll be lucky to get a window 150x120 in size, especially if you use the full video replay rate of 25 frames per second. Of course, you could always lower the capture rate to 10 or 15 frames per second, in which case you could manage a higher resolution.

For on-screen multi-media work, you could certainly get away with less colour, and nobody expects full-screen AVIs in any case.



Most multimedia video is no more than a quarter screen in size. For single frame capture, the card will manage up to 640x480 in 24-bit colour. A perfect beginner's card.

Aztech CONTACT 01734 820840 PRICE £179.95 Easy enough VERDICT

to set up but choosing the right capture rate is tricky. An okay allrounder.



ccelerated capture and playback of AVI files is a feature which enables you to record live TV or video footage at higher rates than is otherwise possible. The Gamma is the cheapest card to include this feature and is like a big brother to the Captivator.

However, the acceleration doesn't seem to yield the benefits you'd expect, and even at low resolutions the card dropped frames. There were more efficient codecs, but at no time did the Gamma really seem to live up to the promises on the box.

Perhaps video capture never was this

card's forte - it also comes with a built-in TV tuner and some nice software for you to watch TV in a window on your desktop. You could just as easily watch video if you pipe it in through one of the external connectors. The Gamma can also use an add-on teletext module. Even more interesting, is the optional MPEG add-on kit which lets you to watch VideoCDs or replay MPEG footage from directly within your programs.

The card is very easy to set up, and we had no problem allocating RAM for the capture drivers, but determining the best capture



codec, frame rate and resolution, turned out to be a big challenge. For single frame capture, it manages a generous 768x512 image size in 24-bit colour As an all-rounder, it's a good starting point at an affordable price.

capture cards

VIDEO BLASTER RT300

ere's another long-in-the-tooth card that still holds its own despite its age. The RT300 has been around for a few years now, and this new version of it consists of a revised board. Nevertheless, it's older than the Plug n Play standard, and that may be its downfall.

Some Plug n Play (PnP) motherboards, are excruciatingly difficult, if not impossible, to get set up and working. We tested two cards on three different machines with nearly every conceivable configuration of graphics cards, operating systems and memory. And we never truly got the kit running.

We plopped the RT300 into an old non-PnP motherboard and it worked like a charm first time. Two hours with Creative's tech support, and half an hour with the motherboard manufacturer's tech support never resolved, or even accurately identified the problem with our PnP machines, however. This is a tragedy, because when it works, the RT300 is easily the best of the non-MJPEG boards, offering tons of different capture codecs, and utilising the Indeo i750 video processor to provide half screen capture and playback at up to 30 frames per second. Whilst the Indeo 3:2 codec provides the best general compromise between image quality and file size, you can choose the one that best suits your requirements and your equipment. It's not quite as flexible as MJPEG, but nearly.

This is a card wholly dedicated to capture for multimedia purposes – most likely in a semi-pro or commercial environment. It



comes with the superlative Adobe Premiere software for editing your video clips, and Asymetrix Presentation for putting together multimedia projects.

If you have a 486 or a non-PnP motherboard, we'd positively recommend this card. If you're not so lucky, think carefully about the hair-tearing frustration you might be letting yourself in for before you buy. DEVELOPER
Creative Labs
SUPPLIER
Creative Labs
CONTACT
01245 265265
PRICE

Temperamental with Plug n Piay motherboards, but the RT300 offers flexibility at a good price.



WIN/TV CINEMA PRO

with the CinemaPro, we're moving away from video capture and towards TV cards. It has a built-in TV tuner, and can accept video input from multiple composite sources. It uses a variety of interpolation techniques to ensure live picture quality. You can even specify the scaling method used. The CinemaPro also has Teletext as a standard.

When it comes to video capture, the card is slightly less impressive than the RT300. It uses 4:1:1 lossless YUV compression, which delivers up to 24 frames per second at a

resolution between 160x120 and 320x240. Although no explicit mention is made of acceleration in the manual it seems unlikely, even given the compressed codec used, that the card could offer this level of performance without dedicated hardware

In fact, it's comparable to the RT300 in terms of price and performance. Because it's a PNP card, the Win/TV is relatively simple to install as far as live input and TV viewing are concerned, but when it comes to configuring the capture part of the card, it gets tricky.



When it comes down to a choice between the two, this one is good if TV, live video or Teletext are important. But the RT300 still takes the prize for multimedia recording.

DEVELOPER
Hauppage
SUPPLIER
ODT
CONTACT
0171 378 7309
PRICE
£280

PC REVIEW

The Cinema Pro Is distinguished by it's quality TV and video overlay. It's the only board with Teletext.



MIRO DC1 PLUS

f all the cards we've seen, the DC1 Plus is the strangest hybrid. It's one of only two that has the ability to capture using the MJPEG format, the other being its high-end PCI stable-mate, the DC20. Unlike the DC20, which is a PCI board and can utilise the extra speed offered by that connection method, the DC1 plugs into your PC via a standard 16-bit ISA slot. It's comparably priced to Creative's RT300 card, but offers a different level of playback power. Whereas the RT300 supports tons of different, generally high-quality capture codecs, the DC1's MJPEG format

can be altered to match the other components of your system. If you have a slow hard drive, drop the quality, if you're encoding for output to video, ramp it up to the max.

One compromise made in the name of economy is any form of image overlay. The card wasn't designed for watching TV or videos, but it doesn't even provide you with a visible image of what you're digitising. Still, there is a composite out socket which you can connect to a TV. This is quite a limitation, but given the wonderful capture quality at greater than half-screen size, it's a sacrifice



you'll make if you have a means of viewing the signal as you work.

The miro DC1 Plus was one of the easiest cards to set up, and includes some excellent software. Recommended.



With it's combination of quality, high resolution and decent frame rate, the DC1 Plus is our top tip.



DEVELOPER
Miro
SUPPLIER
Miro
CONTACT
01494 510250
PRICE
£881

Easy to set up and advanced, this card comes at a price. Well up above usual video standards.

VERDICT



HARD DECISIONS

It doesn't matter how good your capture card is, if your hard drive isn't fast enough to support it, you'll lose data when you try to record. If you have a lot of memory, you can minimise the effect by buffering into RAM first, but when you're talking about writing anything up to 3.5Mb of data each second, you'll appreciate that available memory can become exhausted. Old hard drives sometimes write data as slowly as 500k per second, while even relatively fast mode 3 and 4 EIDE drives may still only manage a sustained transfer rate of around 2Mb a second. This should be enough for most purposes, but if you plan to do some serious recording, you may wish to consider investing in a fast SCSI 2 or SCSI 2 Wide drive, and an appropriate interface.

WHAT SOFTWARE?

For serious work you'll need serious software. There are only two real Video for Windows or Quicktime editing programs, and both are available in 16-bit and 32-bit versions. The first is Premiere 4, an early version of which is already bundled with a number of these cards. The other package, Media Studio Pro 2.5, is equally capable, and costs a little less. You can find out more by phoning Adobe on 0131 451 6888 or BIT UK on 01420 83811.

MIROVIDEO DC20

Although it's out of the price range of most home users, the DC20 demonstrates just how far you can go if money's no object. It's the upmarket version of the DC1 Plus, and because it connects to your PC via the PCI bus, it's capable of better performance. Like its little brother, it uses MJPEG compression, which is applied directly to the YUV input signal be it from video, a camera or TV. It's not designed as an all-rounder and doesn't come with any frills like a tuner, MPEG decoder or Teletext. What it does do

damned well is encode the highest quality full-screen animation possible, easily handling S-VHS standards. Thus it's ideal for output back to video.

However, with all that power comes a price. It may have the ability to record S-VHS quality footage, but there's every likelihood, that your hard drive isn't fast enough to record the data without skipping frames. Even at 3Mb a second you can lose quality.

The DC20 is the only board that can record both fields of a TV image (effectively



increasing the load to 50 or 60 frames per second) in full-screen at S-VHS quality with 44.1kHz stereo audio without missing data. If you want the best, it's your only choice.

IN COMPARISON

All the cards here are able to capture single images more easily than a sequence of frames. That's why the single frame resolution is higher than the AVI size. When measuring AVI throughput, we deliberately chose to go with 24-bit images recorded at the maximum PAL rate of 25

frames per second, which is the most demanding specification to record, and generates the most data.

In real-life, you'd be more likely to record 16-bit data at 15 frames per second so you can increase the frame size accordingly. It's also worth bearing in mind the fact that, although the DC1 Plus is not capable of direct overlay, most recording packages show you a live preview image which you can use to see what you're going to record. You can't use that particular card to watch videos or TV on your computer, but that's the only real limitation.

	CAPTIVATOR	VIDEO GALAXY GAMMA	VIDEO BLASTER RT300	WIN/TV CINEMA PRO	MIRO DC1 PLUS	MIROVIDEO DC20
TV tuner?	No	Yes	No	Yes	No	No
Teletext	No	Optional	No	Yes	No	No
Video overlay	Yes	Yes	Yes	Yes	No	Yes
Single frame size	640x480	768x512	640x480	640x480	384x288	768x576
Accelerated replay	No	Yes	Yes	Unknown	Yes	Yes
AVI size (24-bit)	160x120	160x120	320x240	240x180	384x288	768x576
Best capture format	VideoLogicYUV	YUV 4:2:2	Indeo 3:2	YUV 4:1:1	MJPEG	MJPEG
Inputs	S-Video Composite	S-Video Composite x 2, TV	S-Video Composite x 3	S-Video Composite x 2, stereo audio (phono)	S-Video Composite	S-Video Composite
Outputs	None	Speaker	None	Luma, Chroma, stereo audio (3.5mm jack)	S-Video Composite	S-Video Composite
Туре	ISA	ISA	ISA	ISA	ISA	PCI
Other connections	None	Internal VESA lead	None	External loop plug	None	None
Software	Video for Windows CD	VideoStudio	Premiere LT, Presentation	Proprietary	Premiere, 3D FX	Premiere, PhotoShop

Conclusion

hatever your budget, you can enjoy the pleasure of recording your own computer video. At the affordable end of the market, the Captivator may not pack a huge punch, but it's certainly a good way to get started. Because it doesn't have accelerated playback of AVIs, you can distribute any animations that you record without having to downgrade them to an inferior format. Although it proved difficult to configure on our Windows 95 Plug n Play machines the

Video Blaster RT300 has long been a top favourite, and must surely win in terms of multimedia encoding. However, the DC1's MJPEG is a powerful challenger provided you're recording footage to be replayed on a machine with another such card inside it. Its higher resolution and greater compression make it particularly attractive for people who want to make their work stand out.

Of course, if you take money out of the equation, the DC20 is simply one to die for,

and our local bank manager is likely to receive a grovelling visit quite soon! The other cards, while less capable, provide the added bonuses of TV tuners, video overlay and sometimes Teletext, so if you want a card that doubles up and gives you such features, give them a look

Despite its lack of overlay facilities, the miro DC1 Plus takes the prize for sheer resolution and image quality, but the RT300 and Captivator are right on its heels. (MB)

Now you can manage your whole network from one point.

Norton Administrator Suite Essential Edition

Reduce your workload, increase productivity, solve network problems remotely... with Norton Administrator Suite, you have complete control of your network and end-user resources from one Windows console.

Now you can manage hardware and software inventory, software distribution and licence compliance, end-user support, desktop configuration and virus protection, thus minimising workstation visits and reducing enduser support costs.

Loading from a single CD, Norton Administrator Suite works across all major network operating systems, client operating systems and network protocols, without the need for additional software.

All components are technology and market leaders in their categories, and proven on 10 million desktops worldwide.

Put your whole network at your fingertips - to learn more, please call 0800 526459 now, or complete the coupon.



Norton Administrator Suite software is the ideal tool for administering mid-size, single-site LANs in a heterogeneous environment.



SYMANTE

To find out more about Norton Administrator Suite Essential Edition, please call 0800 526459. Or return the completed coupon to the address featured below. Or fax the completed coupon to 01734 662979.				
Name	Address			
Job Title		Postcode		
Company	Telephone	Fax		

Symantec Information Centre, PO Box 700, Aylesbury, Buckinghamshire, HP18 9YJ. Symantec Information Centre is administered by Information and Research Services end is not owned by, nor directly affilia to the Symantec Corporation or Symantec Limited. All trademarks ere recognised as belonging to their respective owners.

PCREV

FIRST SERVE

The making of Davis Cup Complete Tennis

Anyone for tennis? PC Review goes behind the scenes and brings back a report on the making of the latest sports licence to hit the PC.

imbledon has already left its indelible mark on the English summer, but the real battle of the tennis giants is yet to take place. Facing off against Codemasters' Sampras Extreme is Davis Cup Tennis,
Telstar's bid for on-court

supremacy. Under development by South East-based

Software since last summer, Davis Cup marks a departure from the current vogue for recreating sporting events using polygons. Instead, players will be served up with an enticing photo-realistic graphic style that Dome is confident will endear the game to the armchair tennis fan.

Dome

"What we've done is to ignore the rest of the

industry," says chief Dome programmer Jon Court. "We've disposed of the 3D polygon motion-captured characters and gone for realistic video captured images with tons of animation frames... and tons of playability." The obvious limitation of this approach – the lack of movable camera views – doesn't worry Jon. "Once you've seen the different viewpoints on offer in a 3D tennis game you're always going to settle for a behind the player viewpoint."

The inspiration for the game came not so much from the sport itself as previous computer implementations. Jon: "I simply think tennis makes a good computer game — I don't mind the sport, but as far as I'm

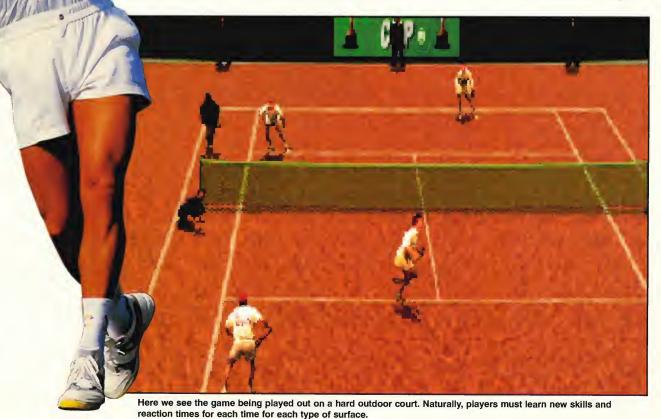
- I don't mind the sport, but as far as I'm concerned we're here to come up with a good game." Indeed, Jon admits that the ageing Super Tennis on Nintendo's SNES console is a favourite. "If you go back to it now it looks pretty chronic, but it's still a fantastic game to play."

It's that graphical style which looks certain to net potential players. Digitising actors and placing the animated images in a fully interactive game has always been fraught with difficulties, but it posed few problems for the Dome team. "It's because we thoroughly planned it all out first – filming everything to a set list, and so ensuring that all the moves would be possible."

Green screen filming

Although real tennis names are missing from Davis Cup, there's still a wide range of players to play with or against, with differing styles and abilities. This may suggest real problems for video-based sprites, but only two people (male and female, obviously) were used for the filming. "As well as shooting the bodies using green screen filming, there are 48 cameos we can place on the bodies," explains Jon. "We also processed the graphics frames with a self-made utility, enabling us to instantly apply Asian, black or other skin tones to the bodies."

Re-using the same body animations for the players may restrict differences in movement style, but consider the fact that there are almost 2000 frames of animation for the players, and it's understandable. Add to this number the extra cameo images, the





animations for ball boys and line judges, and the inclusion of SVGA modes (not pictured in this preview, sadly), and you've got one very graphically intensive game.

Dome is keen for the game to be seen as a real sim, but the fun factor hasn't been ignored. "We felt it would be important to include a party mode in addition to the usual tournament games," says Jon. "Twelve people can enter their names and winner stays on. We did take the idea of it being a fun event slightly to the extreme, even re-filming all the cameos with party hats on!"

Immersion in the sport

Anybody who has ever found themselves immersed in watching, or taking part in the real sport will understand how important the noise of the crowd and umpire are. Davis Cup Tennis utilises a mix of ambient crowd noise with specific samples to keep the audio continuous and context sensitive. Various extra shouts and heckles, along with the weighty tones of an umpire – the recording using a voice actor rather than a

genuine man of the match – add that final touch of realism.

Also of paramount importance in tennis games is simulation of racket control. "Effectively there's a choice of volley, lob, a high hit or a smash," says Jon. "On top of this players also have control of the direction of the ball by holding the joypad in the desired direction." This is an improvement on some tennis games in which the timing of the swing is the only factor determining the angle. Dome is paying particular attention to this crucial game element. Jon: "Testing of the control system is still going on. Indeed, it'll be fine-tuned right up until the game is finished to make sure we get it exactly right." A practice mode will ensure the player gets to grips with its subtleties before taking on the opposition.

When it comes to competition from Sampras Extreme, Jon Court is confident. "I can't really put somebody else's game down, but if you look at the screenshots of Davis Cup it's just so realistic. And once you've picked up the joypad you'll find it plays as good as it looks." (MR)



No sports game would be complete with balletic movements, and Davis Cup Tennis is no exception.

Remember sprites?

Rather than going for polygon players, Davis Cup uses digitised video-based sprites...



Even the activity of the net judge is turned into sprite animation.



Here's the full sequence of frames for a male player serving.



And here's a breakdown of a woman returning serve.

ДОМЕ WHO?

Although seemingly a new name on the block, Dome has actually been going for over three years now, having previously specialised in conversion work on a number of machine types. Titles with the Dome touch include PGA Euro Tour from Electronic Arts, Psygnosis' Puggsy, and the Jaguar version of Sensible Software's Cannon Fodder.

TENNIS WHEN?

You can find out for yourself if Davis Cup Tennis is set to win the game, set and match when Telstar releases the game in the Autumn. Call the company on 01932 222232 for more information.



A puff of chalk? There's no opportunity for contesting where the ball bounced in Davis Cup Tennis. What the umpire says goes.

Next Month We'll bring you the world exclusive

playable demo of Davis Cup Tennis – the PC Review Summer of Sport continues.

In the picture in order to create the sprite sets, real players were filmed doing real moves. Who needs motion capture, eh!



It looks like its on TV, but this is a scene

spent lots of time animating the sprites

from Davis Cup Tennis. The developers have









Is the new version of the world's number one golf game about to set a new allswinging all-dancing standard? PC Review wonders what the LS stands for...

ist the greatest golfers of all time and you can't get far without mentioning the Iname Arnold Palmer. He sounds more like a character from a Blur song, but back in the 60s he was the man. The Daddy. He also happened to be the man in the 70s and part of the 80s as well. And thanks to the new version of Access' perennially popular Links golf game, Arnie (as he is wont to be called in deference to his Schwarzeneggar-like stature on the tee) could be destined to be the man in the late 1990s too.

Links' pedigree in the short history of PC games is almost as proud as Arnold's in golfing lore. Back in 1991, it was the first game to be produced in (gasp!) 256 colours, and because it didn't have a 16-colour EGA mode it left PC gamers with low-spec PCs crying bitter tears of outrage. Oh yes, and you really needed a 386 to do it justice, which was no laughing matter when such a machine cost the best part of two grand. Nowadays, though, a Pentium PC can be picked up for half that, ideal for a game with

After a glorious bounding drive you can review the shot from several angles.



With so many viewing windows, you'll never lose your ball in the rough.

SVGA graphics, realistic 3D and complex golfing gameplay. Ideal, in fact, for a game like Link LS.

Sporting a casual jumper and natty pair of slacks, a delectably digitised Mr Palmer not only strokes his way round a couple of Hawaii's most beautiful courses, he shows you round the clubhouse and resort as well.

"It's an opportunity to play his course, see his animation and get a multimedia experience of some of his history and home life," Access boss Bruce Carver told PC

Arnold Palmer's Indoor Golf

He may not have lent his name to a PC game before, but you can be damn sure the world of commerce hasn't completely passed up the Arnold Palmer merchandising opportunity. Recommended for ages ten and up, Arnold Palmer's Indoor Golf comes complete with a miniature Arnie stuck on the

end of a golf club, a green, a couple of bunkers and some interchangable snap-in clubs. It's not entirely clear how the game works, but a distinct lack of excitement seems inevitable. For more information, take a look at http://www.webtek.com/indoorgolf/ on the Web. \$50 each plus P&P. Bargain.



Next Month We'll have an exclusive demo oj Links LS on our CD.







It's almost like you're watching TV and it's incredible that we've achieved that level of realism," he gushed. "It's such a complex system now that it will take people a while to get used to it. This is much more of a thinking man's game, it's much more like

The trouble with all this SVGA realism and sophisticated ball movement is that players now notice all the minor kludges in the game system. "Little things that were OK now look like glaring errors," Carver laments. "Take the ball going in the hole, for example. The guy programming that has had to treat the hole with floating point math to make sure the ball disappears into the hole properly."

Access has also gone to great lengths to ensure the video footage of Arnold and the other three golfers in the game is fully integrated with the gameplay. "The most difficult part is digitising the video and making sure the images themselves are completely synchronised with the way they operate in the game," said Carver. "We have a lot of after-shot reactions as well as the ability to have four different camera





Top left: If you're not happy with your shot you can take a mulligan and have it again.

Top centre: It's against the rules of golf to change your jumper half way through a game.

Top right: Arnold is aware of this obscure rule and quickly changes his back again.

Just above: But sadly it doesn't stop him hitting his ball straight into the lake.

windows open with them all looking at Arnie from different angles. It took five people roughly a month to get all those animations put in, and while we were digitising we also had to remove his shirt so you can change its colour in the game."

But difficulties with digitising video footage are nothing when it comes to dealing with the dreaded Windows 95. "Most of our problems hinge around hardware and Windows 95," sighed Carver. "Links LS is so flexible in terms of resolution and memory that the major problem we face is that Win 95 is real fickle the way it allocates memory - it gives it to you and then wants it back, sometimes causing a crash. If Links LS crashes under Win 95 it takes you right back to where you were on the course.'

Carver has a team of 20 artists and programmers working on the project, and then a truckload more people in the testing department. "The programmers are the heart of this and we're the group that's here til midnight every night knocking the last bugs out of it," he said proudly. "But everyone gives their heart and soul to it." (OB)

nineteenth. "We're trying to add more to the game so people can get the real experience of playing golf. "Our concept is to have an on-going

Review as we sipped Bourbon on ice at the

relationship with tour players to use their images in our games. Arnie, of course, is one of the legends in golf, and we have a contract with Davis Love III and several other very prominent names. We plan to use PGA players as well as seniors and the idea is to include them in their home environments on their home courses. We use a high-colour version of the VR engine from Under a Killing Moon so you can walk through Arnie's office and workshop where he builds his clubs, with his right-hand man explaining everything to you."

Even Carver admits that a VR walkthrough of a Hawaiian clubhouse could be seen by many as multimedia fluff, but he's convinced that everyone's going to be impressed with the Links LS game engine. "Besides re-doing the terrain rendering portion, we completely reworked the ball flight so the ball behaves much more realistically. The ball dynamics are amazing.

Things you probably didn't know about Arnold Palmer

real golf."

- According to Forbes magazine, in 1994 he was fourth in overall earnings among athletes in the US, with \$13.6 million - just \$35,000 of which was from playing the Senior PGA Tour. Much of the rest came in endorsements.
- He hasn't won a Senior PGA Tour title since 1988 or a PGA Tour title since 1973.
- He's the president of Arnold Palmer Enterprises which is worth an estimated \$175 million.
- He has won an amazing 92 career championships, 61 wins on the PGA Tour plus 29 titles.
- He won almost \$400,000 in prize money from 1960 to 1963 alone.

RELEASE INFO

Links LS is due out in August for around £45, though Eidos has yet to confirm the final price. It runs under DOS but Carver expects it to be converted to a full Windows 95 application by the end of 1996. It'll need a 66MHz 486 with 8Mb RAM and SVGA graphics, and will support up to eight players over a local area network or modem link. For more information call Eidos 0181 780 2222 or have a look at http://www.eidos.com/ on the Web.

Upgrade your PROBLESSON

Of all the upgrades you can perform on your computer, nothing increases raw number crunching power like a new processor. We show you exactly what's involved.

SIX THINGS THAT WILL BENEFIT FROM A FASTER CPU

3D games Bigger displays, smoother animation, more detail.

Photo editing programs Faster application of complicated effects such as filters.

Animation Replay at higher frame rates.

Software MPEG Larger screens, better quality sound, smoother picture playback.

3D packages Quicker rendering of complex scenes.

Vector graphics Faster redraws of complicated multi-object images. ver the past couple of months, we've been looking at ways to enhance your computer. Each of the upgrades we've covered so far have yielded a variety of benefits that ultimately improve the speed of your PC. However, when it comes right down to it, the thinking 'brain' of your computer, is the central processing unit, the processor or CPU, as it's called for short.

Of course, the ever accelerating drive of technology brings us a constant flow of new, faster CPUS. Every top of the range new piece of software, in turn, requires the newer processors. It's a pain, but to keep on getting the most our of your PC without replacing the whole thing entirely, the solution is to upgrade the kit you've got.

It has the responsibility

Your processor is the component inside your PC responsible for handling all instructions, orchestrating the other parts of the machine, and running any programs that you load.

These instructions are fed to the CPU in a binary format, consisting of ones and zeroes, but the way it interprets them differs from one processor to the next.

The speed of the processor is like the engine capacity or the number of cylinders in an automobile engine, but the processor version (386, 486, Pentium, etc.) equates to the quality of an engine. You could have an Escort with a huge Spitfire engine that shakes it to bits as soon as it starts up, or you can put in a smaller, but super-smooth Volvo engine, and it will power the car more efficiently. In other words, while processor speed is just that, raw power, it's the refinement that really makes the biggest difference. Higher numbered processors use more efficient sets of internal commands, and often have optimised architecture, both of which enable them to run more quickly.

But all that is just technical background information. You want to know what a new processor will do for your life, and the simple answer is that if you get a new, faster one,

you'll spend less time waiting and more time doing. Applications will run faster, rendering will be quicker, complicated graphic processes will take less time to apply, and perhaps best of all, your 3D games like the incredible Quake or Duke Nukem 3D, will run more smoothly, with more detail, in bigger windows and at higher resolutions. In short, a faster processor, will have a positive effect upon every area of computer activity, whether it's put to use in DOS or Windows. A good new graphics card might help, but if you want games faster, get a better chip.

Easy to fit, hard to choose

If all that seems too good to be true, well maybe it is because of all the upgrades you can add to your computer, a new processor is one of the easiest to fit and the hardest to choose. There are so many permutations, that it's almost be glib to try to summarise them here. Pentium-ready motherboards that don't accept Pentium chips, 486 motherboards that simply aren't upgradable, and

Before you start



Before you delve into your PC, don't forget to turn its power off. Turn off the supply from the wall socket too. You'll need to remove any fixing screws holding the case shut at the back or the sides. Be careful not to unscrew the power supply too. Its screws are new to the power socket, and usually set further from the edges of the case.

Once you've unscrewed the case, remove the lid or panel. This should be a matter of firmly sliding it backwards, possibly with a



tilting action to release any catches. Cases are designed to be opened, so if yours gives you trouble, take the time to examine it. Perhaps you're pulling or pushing it the wrong way.

The next stage is crucial. Once the case is open, touch any bare metal part of the inner frame. This should discharge any static electricity from your body that might otherwise damage the delicate electrical components in there. Now you're ready to go to work on that CPU.

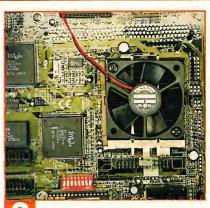


Okay. The back of your PC is off and you can see inside it. Half the physical labour is over with, and so is that first daunting glance at all the gadgets, wires, circuit boards and so on.

Stop. Don't touch anything. Once again we have to warn you about that static electricity which can seriously damage a microprocessor. So before you go to work ground yourself on your PC's metal frame or its power source.

Pull any intrusive wires to one side and tape them there if necessary. Now you have to locate your processor. If it's a Pentium it should have a small fan on top of it.

Otherwise, it will probably have a heat sink on it which looks a bit like a bed of nails.



Once you've located the processor, you need to remove it so that you can fit your new one. Hopefully, your mother-board uses a ZIF socket – most PCs do these days. If you do have a ZIF socket simply pull the lever handle away from the socket, then lift it up. The action should be light and easy. The chip should become freely removable with no force at all.

If the CPU isn't in a ZIF socket, you'll need to very gently lever it out with a kitchen knife, working from one side of the chip to the other, maintaining equal pressure to avoid bending the pins. If the chip has a heat sink and/or a fan fixed to it, remove them from the chip using a screwdriver. Apply firm but steady pressure when needed.

What's he talking about?

CPU - Central Processing Unit The brains of the computer. The faster and more refined it is, the more powerful your PC.

DIP switches

Used to set motherboard speed ratings, and the type of processor in use.

Jumpers

Small electronic shorting blocks used as switches for setting

various parameters on the motherboard.

MegaHertz

The speed unit used to indicate how fast your motherboard runs. It also indicates the speed of a processor within a family. Motherboard

The main board into which you plug the CPU, RAM, graphics and sound cards, and everything else. Different motherboards run at different speeds, which are user-definable. Overdrive

The collective name for a range of processors designed to work with any motherboard at all. They come in various forms, ranging from DX4 Overdrive up to Pentium 166 Overdive. You use DX Overdrive chips on 486

motherboards, and Pentium Overdrives on Pentiums Speed multiplication The process of increasing your motherboard's base speed to ZIF (Zero Insertion Force) socket A modern type of chip socket

synchronise it with faster CPUs. which enables you to insert and remove chips with no effort by using a lever.

Pentium motherboards that only accept chips made by certain manufacturers- these are just a few of the issues to be confronted when buying a new processor.

The first thing to determine, is whether or not your processor is upgradable at all. The processor is the largest chip in your computer, and if it's soldered to the motherboard, then you're stuck with it. In situations like this the only way to upgrade, is to buy a whole new motherboard. If you own a 386SX machine, you'll also need to buy a new motherboard if you want to upgrade to a 486 or beyond. If you own a 486 system, you can certainly add an Intel Overdrive processor to bring it up to 100, 120 or even 133MHz. Cyrix makes an equivalent range of chips called 586 processors, but these are less compatible.

If you own a Pentium-ready motherboard, you should check that it truly can accept a P24T Pentium chip because many so-called Pentium-ready boards are not. Even if you can add a P24T you should consider whether it's really worth it. A Pentium is a 64-bit chip, but a 486 only has a 32-bit motherboard, so the main benefits of

Pentium upgrades

the chip are wasted.

Perhaps it would be better to go for a 133MHz DX4, or upgrade to a full Pentium motherboard? As for Pentium upgrades, there are a variety of motherboards out there to get, but the main determining factor is whether or not your motherboard supports speed multiplication. Most Pentium motherboards are capable of running at 50, 60 or 66 MHz, and there's often a jumper which will increase that by a factor of 1.5, or 2, enabling the use of faster chips. The older motherboards, unfortunately, don't support

this multiplication of power. In this instance, yet again, a Pentium Overdrive chip is the only viable option available to you.

To answer these questions, and others that may arise, refer closely to your motherboard manual, or seek the advice of the company that sold you the computer in the first place. Also, take the time to check that the processor that you're thinking of buying is meant to work with your motherboard.

If possible, try to get the sales staff to agree to a money-back return deal in the eventuality that the CPU isn't designed to work with your system. Many companies that sell processors already offer such deals. At the end of the day, the safe but expensive option is always to go for an Intel Overdrive chip, which is designed to work on both ordinary and problem motherboards. They come with comprehensive instructions, and are easy to fit. (MB)

SHOPPING

Although there are lots of different processors available, your choice essentially comes down to a few manufacturers like Intel, Cyrix and Gainberry. Whilst Intel is the safe option, if you know exactly what you need and what you're doing, you may be able to save quite a chunk of moolah, by going for one of the other brands. Whichever one you go for, you can buy them from: Eurodis on 01256 707386 or Galatrek International on 01492 640311.

Applications will run faster, rendering will be quicker, complicated graphic processes will take less time to

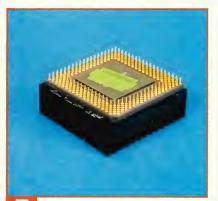


Before you put the new chip in place, you should reaffix the spiny-looking aluminium heat sink. This is an essential cooling mechanism. Just about all upgrade chips need a heat sink, and if you don't have one, you should purchase one before running the new processor. If you don't, permanent damage could be caused to your computer or the CPU. The heat sink should already come pre-glued, or with its own plastic fixing bracket. If it's glued, just press it onto the back of the chip. If it's a plastic bracket, the chip is inserted into the bracket, and the bracket is then connected to the heat sink. If your new processor comes with its own fan like Overdrives do you can ignore all this and just install it with its fan. (See step 5 for more.)



Now to insert the new chip, You'll notice that all chips are keyed, either by using a metal arrow, a red dot or some other marking in one of the corners. The chip socket is also keyed, using some form of marking. These marked corners should be placed together. Pentium chips actually have pins missing in one corner, so you can't insert them the wrong way round.

If you're of the ZIF socket persuasion, make sure the lever handle is open as far as it can go so the socket grips are out of the way. Drop the chip into the slot. Make sure it's all the way in and level, then slowly close the lever. In a non-ZIF socket, carefully position the chip, then firmly press it home, using even pressure on all sides.



Once the chip's in place, you should re-attach the fan and/or heat sink if it has them. If you don't have a fan, you'd be well advised to invest in one as it further helps to dissipate heat and reduces the risk of chip damage during the summer. The fan should simply screw onto the heat sink. Once it's in place, you'll need to set your motherboard's jumpers or DIP switches to indicate the new processor's presence. The exact settings will vary according to the processor and the motherboard, and you'll need the manual for both to set it up properly. Once you've done that, the installation's complete. You don't need to reconfigure your PC or anything like that. Your zippy souped up computer is ready to run!







DATA BECKER SOFTWARE

VISA





UNIT 4 BENTLEY INDUSTRIAL CENTRE **BENTLEY, FARNHAM** SURREY GII10 5N.I

TEL: 01420 22707

Walkthrough

DATA BECKER's 3D Walkthrough Home Designer is an application that everyone can use and enjoy and feel that at last they are using the full power of their computer.

With 3D Walkthrough Home Designer you can plan out your home, office, school or even stage as a 2D plan. You can then add windows and doors. Furniture and accessories can then also be added in either 2D or 3D mode.

Most other 3D design products can do this, but this is where 3D Walkthrough Home Designer really starts to shine. You have a texture catalogue of over 600 materials, fabrics and colours, with which you can decorate your walls and floors. The furniture catalogue includes over 1000 furniture pieces, all of which have their own textures and material. A wooden chair has a wood grain finish, a marble surface really has a marble pattern. Textures can be added as carpets, wallpaper and furniture textile colouring using "drag and drop". The doors, windows and furniture items all come to life as you place them and view from different angles and with various lighting effects.

The full power of 3D Walkthrough Home Designer is realised when you find that you can actually walk through your 3D design, turning on lights to see shadow effects, moving furniture and closing or opening doors.

Views may be saved at any time as .BMP or .WMF for use in other applications.

You now have Workstation power on your PC

- Powerful 32 bit graphics specifically developed for Windows 95 (but retaining Windows 3.1 compatibility).
- Over 1000 3D high quality furniture and accessory objects. Furniture can be rotated and resized to fit all needs. All furniture items use textures to give a realistic 3D look.
- Over 600 textures from which you can create carpets, wallpapers, wall surfaces, brickwork etc. Textures are BMP files thus allowing you to create you own wallpaper and designs from any graphics package.
- Multiple view choices. You can open several windows to examine a room from several different view points, including 2D and 3D views simultaneously.
- Walk through your design, and see what it really would be like in your 3D house, turning lamps on and off to see the effect of shadows and different lighting styles.
- Save any view to disk for later examination or printing.
- No special graphics cards required.

System Requirements:

- IBM PC with Pentium® processor recommended (minimum 486 DX2 66)
- 8Mb RAM
- Windows 3.x or Windows 95
- · VGA graphics card with 256 colours (PCI/VLB VGA card with 1Mb RAM recommended)
- CD-ROM drive
- Printer (optional)





This month's letters page introduces the original Jack the Ripper and a vicar into centipedes. Funny bunch, you readers!

SLOW COACH

I'm the owner of a 486DX2-66 with 8Mb of BAM. I received the machine as a present last Xmas. Recently I have noticed that the latest software runs rather slow on this machine. So please will you mention in your reviews how well the games run on the minimum spec machine.

Christopher David Gledhill, East Driffield

Your not alone. Remember our reader survey? The results suggest that while 35 per cent of readers own Pentiums, 45 per cent are still using 486 machines. Thankfully only 2 per cent are still languishing with 286 processors. We won't be going Pentium-only, even if many games developers seem to be turning their backs on humbler specs in pursuit of glitzier presentation. We test games on a variety of machines and always do our best to point out where games run particularly poorly with slower CPUs, though we won't always state the obvious - that games will run faster with a Pentium chip. Final point. Have you considered upgrading your CPU? Check out our guide on page 28.

RIPPER

After reading your review of Ripper (PCR 55, score: 7) I popped to the shop to buy it. Imagine my surprise though when there was another game... also called Ripper and also by Gametek. But it didn't look anything like the one in the mag. Can you help?

Ray Aldridge, Kent

We contacted Gametek on your behalf and it turns out that there are two Rippers. One is an interactive movie starring Christopher Walken, the other... a guide to Victorian London starring Jack the Ripper. We suggest you stick with the Christopher Walken one. Beware of imitations.

TOP 100

Could you do a Top 50 or Top 100 list in the back of each issue based on the ratings in your reviews? I'm sure there are a lot of gamers out there that would find it useful

when buying older games. Danny A. Kirkeby, Denmark

We're planning a Top 100 feature, in a couple of month's time. Reader nominations are welcome. Send in your top five favourite games to the usual address... and no nominating the Quake Public Test. We want finished games only!

RETRO ROCKETS!

Just a quick note to tell you how much I'm growing to like your revamped CD Review. I particularly enjoy your Retro Game of the Month feature. Although I must admit I was

2D graphics are easier and

more fun to make than 3D ones. But we'll return to 3D in the new year. Or sooner!

> version only offered four waves, was truer to the original than Defendroid.

sceptical at first

everyone's

bandwagon

been quite

impressed by

games you've

offered, Galaxi,

last month, was

a fun jaunt back

into my arcade

days, as was

Defendroid the

month before.

But I thought

Galaxi, even

though your

jumping the retro

these days - I've

the quality of the

A game I'd really like to see in future is Centipede, my favourite blaster of yore. And can you try and get a version of it that's as much like the original as possible?

Rev Michael Williams, via Internet

Just for you we'll do Centipede next

month. If you can't wait until then there's an arcade perfect version of that classic on the Microsoft Arcade Pack.

THE RETURN OF 2D

Couldn't resist writing in to say how much I enjoyed your 2D animation special. The PC fraternity's obsession with 3D graphics ultimately just means lots of games that look the same. And on top of that, whenever I try my hand at 3D graphics it takes ages, and all I end up with is shiny balls, chairs and lamps. It's just so dull! Tony Easton, Halifax

Don't give up on 3D just yet. We'll be returning to that third dimension in the new year with a full commercial rendering program and a massive guide to modelling more than just balls, chairs and lamps!





James Binns (JB) (jbinns@future net.co.uk) Editor: Had fun with Gene Machine on page 35.



Garrick Webster (GW) (gwebster@ futurenet.co.uk) Deputy editor: Traced his family tree. Page 73.



Mat Broomfield (pcreview@future net.co.uk) Technical editor: Made his own CD-ROM on 12.



Owain Bennallack (OB) (pcreview@future net.co.uk) News editor: Wrote the news starting page 6.



Mark Ramshaw (MR) Games editor: **Previews Davis** Cup tennis on page 24.



SUBSCRIBE and choose your

You have a choice. You can either continue buying your copy of PC REVIEW from the newsstand every month and run the risk of them selling out before you get there, or you can subscribe to the CD version, get your copy delivered free to your door (if you live in the UK) and get your free gift. We know which we'd go for!

ENCYCLOPEDIA OF

Choose your free gift!



Fatal Racing

Speed kills. But in Fatal Racing it could be all that saves your life as you race and jump in this mad driving game.

Actua Soccer

Without question the finest footie game you can buy for the PC, Actua Soccer is a vital addition to any self-respecting game player's collection.



The Dorling Kindersley
Encyclopedia of Science
offers an information-packed
and user-friendly reference
guide to the world of science.

History

Interested in the past? Then you'll be wanting to take a look at Dorling Kindersley's History of the World.



To subscribe immediately

Call the subscriber Hotline on 01858 468888* *Please quote reference No. PCRP704 when telephoning your order.

UK readers return this form by FREEPOST to: PC Review Subscriptions, Tower House, Sovereign Park, Lathkill Street, Market Harborough, Leicester, UK, LE16 9EF

free gift!

Do you like PC Review?

Sure you do, that's why you've read this far. Well, here's your opportunity to join our extended family and get yourself a subscription. PC Review is dedicated to bringing you the very best in PC leisure. That means the very latest games, the finest creativity packages and the most interesting features. PC Review is going to keep getting better and better and we want YOU to join us!

To Subscribe Immediately

Call the subscriber hotline on: 01858 468888 (9.30-5.30 Mon-Fri)

UK readers return this form by Freepost to:

PC REVIEW SUBSCRIPTIONS, FREEPOST LE5981, LEICESTER, LE87 4AB

PC Review Subscriptions, Tower House, Sovereign Park,
Lathkill Street, Market Harborough, Leicester, UK, LE16 9EF





To Subscribe Now

Personal Details TitleInitialsSurname Address
Postcode Daytime tel no
☐ Please start my subscription at the discount rate ticked below ☐ Please extend my subscription at the discount rate ticked below
Cheque or Credit card 12 issues and free game
CD Edition Non disk Option UK Standard £59 £31 Europe (inc. Eire)* £72 £43 Rest of the World* £93 £68
Please quote your EC VAT Reg. No
My choice of free product is:
Actua Soccer (020) Fatal Racing (021)
DK - Encyclopedia of Science (022) DK-History of the World (023) All products are available in the CD edition only.
Please choose your method of payment:
1. ☐ Cheque (Payable to Future Publishing. Sterling cheques on a UK account only please.)
2. □ Visa □ Access Card no Expires
Card no Expires
Signature Date
CHECCHIPTION HOTLING

SUBSCRIPTION HOTLINE +44(0) 1858 468888

☐ Please tick this box if you would prefer not to receive information on other offers.

PCRP608 (0100)

Business Card Printshop

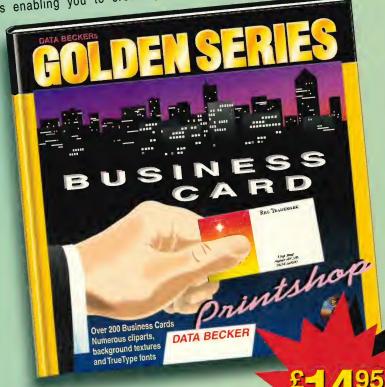
Amusing, elegant, businesslike ...

250 different business cards suitable for every occasion

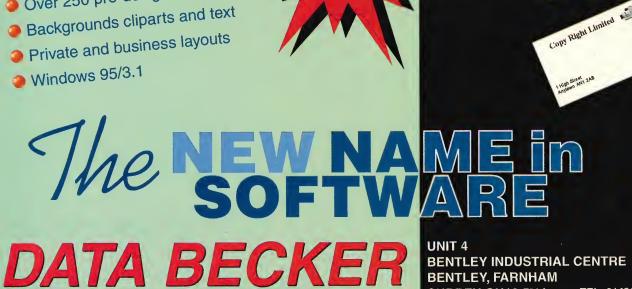
You're bound to find the right business card within this collection. Not only that, you'll also find suitable cards for your family and friends! The program is simple to use and can store all your personal data so that personalised business cards may be produced within minutes!!!

It's so easy: 1. Enter your personal data, 2. Select a card style, 3. Print it out. Spoilt for choice? The various card styles are split up into various categories such as Business or Personal. Within each of these categories, a test print may be made using thumbnails of each card design so that you can easily decide which design is more suitable.

Business Card Printshop also includes over 80 cliparts, 150 backgrounds and numerous fonts enabling you to create your own individual business card designs.



- A card for every occasion
- Over 250 pre-designed cards
- Backgrounds cliparts and text
- Private and business layouts



BENTLEY INDUSTRIAL CENTRE BENTLEY, FARNHAM SURREY GU10 5NJ

TEL: 01420 22707 FAX: 01420 22807

http://dialspace.dial.pipex.com/databeckeruk/

Reg Trademark

Copy Right Limited

Reg Trademark





PLAYER



Welcome to my first month as games editor on PC Review. We've got a controversial section for you this issue, with the lowest scoring game ever from LucasArts – could it be that the grandmaster of PC games has lost its way? On a brighter note, we give you Sega's Virtua Fighter, the arcade beat-'em-up that previously needed a 3D accelerator to run and now will motor quite happily on a Pentium. Now that is progress. To get you started, however, here's a very British game – the Gene Machine.

Mark Ramshaw

Step back in time to the days of imperial facial hair with this thoroughly British game...

orry, but the time has come to play the patriotic card. Dealt as ever from the bottom of the deck, this little joker - God knows how we kept it back during Euro 96 and Wimbledon - is the last refuge of the scoundrel. But we're going to play it anyway. There just aren't enough British adventure games. The West Coast boys at LucasArts rule the roost and games from this side of the Atlantic, like the brilliant Normality from Gremlin, end up starring American characters anyway. Enter the Gene Machine. A thoroughly British

adventure, proud of its heritage - not beer, birds and footie - but instead Black Adder, Monty Python and Fawlty Towers. Our finest exports.

Where it seems de rigeur to set adventures in dark, gritty futures, the plotline in the Gene Machine takes a far more gentile route, placing the action in the heady imperial days of Queen Victoria - the era of Jules Verne and H. G. Wells, with fantastic tales, stiff-upper lips and porkchop sideburns. Sure, Gene Machine involves meddling with DNA to produce genetic hybrids, but

Conten	TS
Gene Machine	35
Judge Dredd	39
Afterlife	40
StarFighter 3000	42
Timon and Pumbe	ıa's
Jungle Games	44
SWOS European	46
Onside Soccer	46
Kick Off 96	46
Return Fire	_ 48
Virtua Fighter	
Reinix	51
Pray for Death	52
Space Hulk	55
Re-issues	56
Play to Win Tips	58

solution

Civ 2 solution

Deep Space Nine



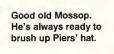
ABOUT TIME GENTLEMEN! The Gene Machine is a seriously late game. So late in fact that it went through two names before it made it into the stores. So, if you read any previews of Victoriana and Sherington Fox (originally the name of the Piers character) then this is the game you've been waiting for.

The chap in the hat's J. T. Ripper. Fanshaw thinks better of looking in his bag.

instead of scary mutants, you get a polite cat-man type thing which looks like a feline... but talks.

The action starts with your hero Piers Featherstonehaugh, pronounced Fanshaw (silent e, silent t, silent h, silent e, silent r, silent t, silent o, silent e) returning from the colonies. The talking cat, named Experiment 73, pops by your house and explains that his creator Dr Dinsey is planning to build an army of mutants and conquer

> the world. So, before you know it you, and faithful man-servant Mossop, are taxiing around London trying to raise funds for an expedition to sort out this Dinsey chap and put the world to rights. Trouble is, Piers is broke after





Docklands by night. In the Gene machine you'll travel by rocket, train, and submarine.



"Perhaps we should raise the Sails captain?" Or we could await the invention of steamships.

living it up in the colonies, so some other source of funding is required. Perhaps you could pawn off your fiancées wedding ring? "Unless you've brought me a replacement of a decent size and weight, I don't even want to discuss the subject," says the lady to that idea. Or maybe a gamble with the old goats down at the Gent's Club? "I'm doing this, Fanshaw, because you're a desperate man, and desperate men make stupid wagers." How about persuading the

Queen to give you the dosh? "If I were not a man of means, your Majesty, I would not darken your door with my lowly, poverty-stricken hide." Lies!

Mousing about London

You control the inventory, speech and actions using the mouse. Navigation around London is easy, with a map showing key points to visit. Click on a location and you're treated to a spookily rendered animation of your horse-drawn cab pulling up. The gag of Piers leaping out the cab and slamming the door on his man servant never wears thin - it's a class thing y'see! Anyone who played through Beneath a

Steel Sky will know how claustrophobic adventures can be when you appear to walk to every destination just off the edge of the screen.

Thankfully, Gene Machine isn't fussy about which order you solve the many puzzles. This keeps the game from having a linear feel, but at the same time occasionally leaves you at a loose end over what you need to do next. You've a pocket full of business cards, trinkets, money and the like but can't do anything with them. Try and give the wrong object to the wrong person and it's, "Why would I want to do that?" or "I want to hang

on to as many of my possessions as I can." No room for error, because the game won't let you make mistakes. You end up watching your percentage score to see if you've achieved anything. It's the same with the dialogue - you work through the options until you find the bit that lets you move on.

One of the finer features of the Gene Machine is the way that most locations are generously staffed with extras. Often they're just there to make up the numbers, adding a few stock sound bites, but there are dozens of characters you can interact with, getting



36 • August 1996 • PC REVIEW



Holding his breath, Fanshaw takes one small step for man, one astronomical step for anyone reckless enough to wear a goldfish bowl into outer space.

round the common failing in adventures that everyone you meet is integral to the plot and so has to be listened too. Instead you'll just find yourself prodding some characters until they come up with something funny.

Brilliant backgrounds

What will strike you immediately about the Gene Machine is the quality of presentation. The backdrops are beautifully hand painted, with period colour schemes and stylings. The detailed sprites are super-imposed on them. Sure, you can see the join, but the animations are convincingly animated. One gripe about the character graphics is that they sometimes don't move quickly enough - for example every time you visit the Royal Institute you've got to plod up the stairs.

Secondly the animations are a tad too lively for their own good - particularly Piers' hand movements. Victorian mannerisms are all

very well, but when he's in full flow, adjusting his cuffs, checking his pocket watch, straightening his clothes and whatever, he could almost be a party-goer at rave, dancing around in his white gloves like Ravey Davey Gravy.

Ultimately the reason why you should buy the Gene Machine is that it will make you

laugh. Not as much as a boxed set of Fawlty Towers videos, but at least as much as Sam & Max or Normality. The wicked and yes, rude, sense of humour pervading in the



makes you want to push through to the end. You want to meet and greet the denizens of

> Victorian London and beyond, because you know for sure that if you provoke them in the right way then they're certain to say something to induce a cackle. In the last few months of the game's development comedy script writing duo Mike Lapine and Mark Leigh were wheeled in to funny-up the script with top results. The interaction between

gentleman Piers and manservant Mossop. and the anachronistic cameos are straight out of Black Adder. What higher accolade does a game need? (JB)

'Oh Mossop, you should have gone before we

took off!"

DIVIDED BY ZERO

Uncannily enough, this is the second game in as many years designed by Divide by Zero that features a lead character with a beard. The other was The Orion Conspiracy and you controlled a bitter, old chap with a limp, whose son had been murdered.

DEVELOPER PUBLISHER Vic Tokai CONTACT 0171 721 7607 PRICE £34.99 MINIMUM SYSTEM 486DX33, 8Mb RAM, double speed CD drive, 15 Mb hard disk, SVGA

A comic masterpiece PC REVIEW VERDICT you'll feel compelled to play through.



Ultimately the reason why you should buy the Gene Machine is that it will make you laugh.

Running rings around Mirabella Your fiancée's ring is far too precious to leave on her capricous fingers.



First, you need to get some grease on your hankerchief from this labourer.



While the cat naps, Piers and Mossop grab the mouse.



Piers pilfers a catnip plant, obscured by Mosson's excesses.



Marabella's drinks tea from a teacup greased up by Piers. Then he lets the mouse loose.



Experiment 73, dazed and confused on a catnip trip.



In the chaos, the engagement ring slips loose - we'll see about the marriage later!



Now - the candidate for best strategy game of 1996 gets even better!

WARCRAFT II EXPANSION SET: BEYOND THE DARK PORTAL

- 24 all-new do-or-die scenarios
- 50 custom maps of previously uncharted territory
- All-new Orcish Swamplands tile set
- 2 completely new storylines
- New legendary hero male and female characters
- Stunning new 3D cinematic sequences





Battling it out with the first end-of-level boss, Zed. Sadly the combat involves simple shooting.



The Judge has delivered his instant form of justice to a baddie.



In Judge Dredd blatantly open doorways can only be accessed if there's a flashing sign reading 'In' hanging in the air above them.

After the disappointing movie comes the very questionable platform game. Welcome to a game licence the way they used to make 'em.

redd first appeared in the late 70s in Britain's 2000AD comic, enjoying over a decade of credibility before Stallone and a botched script completely failed to bring the fascist law enforcer to the big screen in style. At least the movie

be said for this particularly pathetic and outdated spin-off.

The game design, if you will, involves guiding Dredd around a dozen or so levels,

split into a couple of subareas, with various primary and secondary objectives to complete. These include arresting criminals, blowing up arms caches, closing security doors, collecting weapons, and tracking down evil half-brother

Dredd has a good wrestle with yet least looks the part, and that another man in a mac.

sentation suggests Judge Dredd belongs to another time. And it ain't the future.

Such retro gameplay and graphics would be fine were Dredd fun to play. It isn't.

In fact, it's a lot less fun to play than Ocean's similarly themed Robocop, released on the Amiga four years ago. And it looks worse, too. It is, frankly, no fun at all. It's two redeeming features are that the main character at the levels follow the film plot.

Everything else - awkward jumping, dumb bad guys, inaccurate controls, bad level designs (it's possible to get stranded in various areas), infuriating combat, the pixel-perfect precision needed to use ropes and laughable intro screens - should have stayed right on the drawing board.

Sure, Judge Dredd is a game based on crime. But the crime here is the fact that anybody could entertain the very idea of dumping this sort of ill-conceived platform rubbish in this day and age. The crime is attempting to pass off a game design that's well past its sell-by-date purely on the back of a movie licence. And the crime is utterly failing to do current PC technology any justice, failing to include any sort of style or substance, and failing to remember such concepts as playability. Quite why anybody thought gamers would wish to trudge around blocky environments, taking potshots at badly drawn,

> zero intelligence opponents, while admiring the glitchy scrolling (on a high end Pentium, mind you) is beyond comprehension.

This is the sort of crime that would provoke swift retribution in the world of Mega City One. It shouldn't go unpunished in this one, either. (MR)

DEVELOPER Acclaim PUBLISHER Acclaim CONTACT 0171 344 5000 PRICE £34.99 MINIMUM SYSTEM 86/66, 8Mb RAM, 20Mb hard disk space, double speed CD drive. soundcards, joystick optional

> Judge Dredd? Drudge Dredd, more like. A reminder of how far games have progressed.



SHADY CHARACTERS

The one neat bit of presentation in Judge Dredd is this collection of rendered animations, used to depict the admittedly large range of criminal types. Even Judge Death and the ABC Warrior get a look in.









STAIRWAY TO HEAVEN?

It's remarkable, given LucasArts usual approach to things, that there aren't any postmodern cultural references in the game (ie. cheesy puns and gags lifted from songs, movies and TV shows about the life hereafter). So, there's no Stairway To Heaven. no Highway To Hell (you'd have thought AC/DC would have been a winner with programmers everywhere), no Heaven Can Wait/A Matter Of Life And Death style celestial bureaucracy no references whatsoever to possibly the greatest British movie about dead bikers ever made by Hammer in the 1970s. Psychomania. Y'know, the one where the Hells Angels all commit suicide and come back to haunt the one who couldn't bring himself to do it. Go on, you must remember.



The abstract game world of Afterlife is a little hard to get your head around at first so you'll need to play the tutorial first.



Keep a track of your saints and sinners on this table. Although, there aren't any sinners yet as Hell has yet to be developed.



Zoom out as far as you can and you can see the tiny planet from which all the good and bad souls have been transported from.

Afterife

Balance Good and Evil for an eternity in LucasArts' first effort at the God game genre. Could the results be diabolical...

t's business as usual for LucasArts. Find something that someone else has already done fairly well, storm in, give it some of that special West Coast spin and collect the plaudits as everyone hails them as one the greatest game developers in the world. And with some justification. Who could argue with a track record that boasts *Maniac Mansion*, the *Indiana Jones* games,

Sam & Max Hit The Road and X-Wing and TiE Fighter? In a business which churns out uninspired clones and rip-offs by the bucketload, only LucasArts consistently produces fresh, exciting and hugely playable new twists on existing genres.

Which only makes Afterlife all the more disappointing. It doesn't take a genius to guess that Afterlife takes its inspiration from

Maxis' phenomenally successful Sim City 2000. The scenario, however, couldn't be more different. You control the afterlife of the title and must house all the souls who are entering the twin planes of Heaven and Hell. The souls must be rewarded or punished for eternity which means you have to create zones of the seven deadly sins or the seven heavenly rewards for them to move into.

Your supernatural majesty takes control

Clicking on these different coloured boxes will enable you to create zones of the seven deadly sins or heavenly rewards.

Going from left to right these four tools let you: build a gate, make roads, make a reincarnation thingy and lay a path to the reincarnation centre.

From here, all the rest of the buildings to flesh out the afterworld can be accessed. Ports, banks, colleges, utopias and things which are just like the Arcologies from Sim City 2000 but obviously aren't anything whatsoever to do with them. At all. Obviously.



More essential, informative but not exactly inspiring data on angels and demons can be sourced from this set of buttons. Get advice from Jasper and Aria by clicking on their mugs and then on your individual structures with the magnifying glass. Plot the long term success of your domains by perusing the detailed graphs, tables and charts to see what your souls are up to. A training college for angels. Hell has a similar training facility for junior devils and demons.

A bank. Quite how concepts of money, mortgages etc got in here isn't clear.

These are areas of zoning where souls can live.

The Gates. Either pearly or hope sapping.

Dull yet functional and really rather useful map controls. Flip it around 90 degrees, take a look at the 'planet' of heaven and hell in all its glory and zoom in or out for either fun or profit.



A selection of eternal watering holes. Each individual building in Afterlife is available in both a good and evil version.



An early look at Hell. The bad souls seem to prefer a wobbly, messy road layout whereas the good souls stick to the straight and narrow.

GOVERNO HINDSHUT HORITAT 52 A Reward for 6000 SOULS Pop: 35,821 (94% full)

A close-up of the Riddler-esque skyscraper favoured by uptown angels. Here, you can find out the population of the building, the Heavenly Hindsight Habitat, a reward for good souls. With 35,821 souls fighting for space in there, it's getting crowded so better keep them happy.

Each soul can only move into a certain zone - fail to supply enough of the right zones and you'll have lost souls wandering all over the place and you'll start to lose money.

Divine intervention

Before your souls can arrive, though, you've got to construct a gate from the previous world and roads for them to go down. Once they're in and happily settled in whichever zone they want, things start getting a little more complicated. Heaven and Hell, it would seem, have just as many problems as any potential metropolis. You'll need to build colleges to train a workforce of angels and demons, limbo bars to keep wandering souls happy, huge special reward structures to entertain the millions of souls in the two planes and even banks.

Now, regardless of which religion you follow, when you play this you can't help feeling that the Heaven and Hell in Afterlife have been somewhat clumsily designed to fit in with the Sim City 2000 template. The detailed, zoomable isometric 3D view of the



Open the gates and the new souls will sweep into Heaven, rushing straight for their own particular zone, settling down for an eternity.

game world is pure Sim City 2000 but the similarities don't end there. A lot of the infrastructure of the afterlife - silly disasters, zoning, giant city blocks (arcologies, anyone?) - is clearly derived from the Maxis opus. This wouldn't be such a bad thing if the game actually brought something new to the genre as well... but it just doesn't.

Double trouble

The twin planes of Heaven and Hell should have given Afterlife the edge it needed but all they really do is double the workload and slow things down as you keep track of two worlds instead of one. The connections between the two planes don't affect the game all that much in practice - it's possible to spend all your time developing one plane and leave the other alone without any real difficulty. Everything works the same way in Heaven and Hell, only the graphics and names change which only adds to the feeling of tedious duplication.

You really are led by the nose in the game. It's almost as if you have to wilfully ignore the pointers offered to fail. If you haven't built enough of a particular type of zone, lost souls wander the streets. You just have to plonk down whatever coloured zone they need. There don't to be any geographical limitations either. You can stick stuff wherever you like without any comeback. Consulting Jasper and Aria, the diabolicangelic team who act as advisors, makes the whole game even more straightforward.

That's the essential problem with Afterlife. It plays too simply. Oh sure, there's lots of things to twiddle but basically there's only one way to play the game right. What's more, the game lacks that crucial feeling of omnipotence all God games need. Sim City

2000 had the "What if...?" factor. It convinced you that you were really running a metropolis and you cared about your populace. In Afterlife, the deliberately silly game world with its arbitrary rules doesn't give you any feeling of achievement and you certainly don't want to show off a healthy Heaven and Hell the same way you would a thriving Sim City 2000 conurbation.

Lust for Afterlife?

Afterlife isn't exactly a dreadful strategy game but the LucasArts connection did get the hopes up for something special. Graphically, it's pretty and inventive, and the engine works well. There are a few laughs here and there but ultimately the gameplay just doesn't do enough. You can't really experiment and make different sorts of world which is the only thing that keeps you playing God games - even the benchmark Sim City 2000 - after you've mastered the basics of world-building. A rare misfire from LucasArts which shows that even the best can be average once in a while. (CB)



The Disco Inferno - a giant dancing demon in a Travolta suit - is just of the hilarious disasters that can wipe out all your hard work.

This game is EVIL

Be warned that Afterlife takes a sacrilegiously amoral view of the pleasures and punishments we have awaiting us once we've sprung our mortal coils, Apart from a few cosmetic differences, Heaven and Hell are exactly the same, LucasArts laugh like goat-slaughtering pagans in the face of several thousand years of belief, dance naked in the woods at midnight around any notions of sin, and toast young virgins over the dying flames of decency left in the wood. We've always been told that computer games were the evil work of Beelzebub but now the proof is here! Come to think of it, doesn't George Lucas have a very pointy beard? And did you know that Star Wars is an anagram of Satan's Warts? (If you take away some letters and add some more, which, of course, any devious Satanist would do.) The truth is out there. Gibber.

> DEVELOPER PUBLISHER VIE Contact 0171 368 2255 PRICE MINIMUM SYSTEM 486DX2/66, 8Mb RAM, Windows 95, double speed CD drive, SVGA

> > LucasArts squeeze some none-too-great ideas into a functional Sim City 2000-alike



STARFIGHTER 3000



THE CRYSTAL MAZE "Life has endowed us the power to conquer the galaxy, and our destiny awaits us there, among the powdery star-fields of deep space. Now we must spring from out home planet and carry the living flame into the sterile wastes. It's time to return the gift of Prometheus to the heavens." So said the sci-fi visionary Marshall T. Savage when he made the case for the terraforming of Mars. Not quite the same as the terraforming in StarFighter 3000.

Telstar's latest offering sticks a rocket into the cosy world of flight sims, jettisoning waypoints out the window.

oad up StarFighter 3000 for a glorious landscape of rolling hills and undulating seas, crisscrossing fuel pipes, SAM sites and tower blocks. Ignite the sky with purple and pink laser fire, punch your way through buildings, take down enemy fighters with a posse of air-to-air missiles. The emphasis in this flyer is clearly on excitement, not planning your optimal fuelling strategy.

The year is 3037. Peace still eludes the human race, and we are dominated by FedNet. You, citizen, have been unlucky enough to receive a poor quality photocopy from some nameless FedNet bureaucrat suggesting that you sign up with the Space Corps. Well, if there's to be a war in the galaxy, do you want to be waster or wasted? Blowing up disobedient colonists with a Predator Mark IV planetary assault vehicle is obviously going to be a lot more fun than siding with the rebels and taking potshots at passing stratoliners with an antique bolt action rifle. You don't deliberate for too long.

And once the plot's provided a break between Installation and Game Controls in the player manual, you can forget all about it and start shooting.

Carve yourself a canyon

The best thing about StarFighter 3000 is that you can destroy entire mountains. Telstar clearly looked at the processor power needed to create today's texture-mapped landscapes and decided to get its money's worth. The result is a modest revolution. The oldest quick exit in a pilot's repertoire death by sharp left into cliff wall - here becomes an opportunity to blast through metres of granite, carving yourself a canyon. You know the bit in The Return of the Jedi, where Han Solo pilots the Millennium Falcon through the twisting innards of the Death Star Mark II? That's you, that is. Except, unlike that wuss Solo, you're always just a laser shot from the end of road.

Shouldn't be allowed in a flight sim? Good. StarFighter 3000 isn't a flight sim, it's a shoot-'em-up bolted on to the side of a 3D flight engine. The result is a game with a totally fresh feel. It's not that the game looks or sounds unique (the effect of valleys and structures emerging from the fog is straight from *Magic Carpet*), but that it plays differently. You're dropped straight from your mothership into hostile airspace, and every bridge, tower block and hill is a target. Destroying these releases energy crystals that boost your vehicle's capabilities. The cherry-coloured triangles confirm the game's homage to the old coin-op *Space Harrier*.

The order in which you collect the crystals determines the improvements made to your Predator. A couple of combinations get you started, but hitting on new crystal recipes is largely a matter of trial and error. Power-ups range from increasing your ship's shield strength and missiles, to upgrading its laser systems and adding extra weapon mounts. You won't hanker after a megaship. The crystal combinations are bewildering, but before long you're hand-picking your

The voice-over sounds like one of those cheesy 'Remember, the Slurpmaster is only available by mail order' TV ads.



The pipes that criss-cross the early levels make tempting targets.



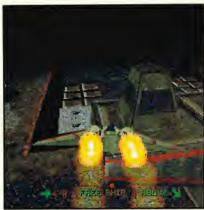
Blow up a section of pipe, and you're in the middle of a chain reaction.



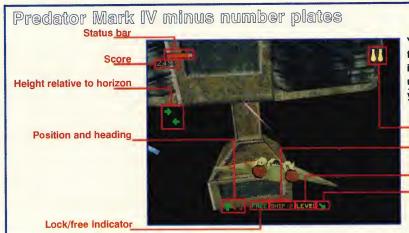
The devastation you can cause with a few well-aimed shots is impressive.



Exploding ships are spectacular, even here, in oxygen-deficient deep space.



Piloting your Predator Mark IV ain't like taking pot shots at swamp rats (thank heavens).



Your Predator was built for speed – its dashboard is an exercise in pure minimalism, to make your task easier.

Lives

Target number

Target elevation
Target direction



You're under orders from FedNet to show no mercy, so if it moves, shoot it. If it doesn't move you might want to shoot it regardless – you can always use the extra crystals to power-up.

4625 OO

The wide variety of terrain might not affect the fighting, but it's far easier on the eyes.

way through the power-ups like a granny chasing the reduced bargains at Sainsburys.

When you first start playing, things are a little disorientating. There's no head-up display, there isn't an altimeter, and as for velocity, the best you can do is guess. Equally, your battle map tends to confuse more than enlighten. There's a whole set of icons to decipher, and to make matters worse, the miniature version of your aircraft always points north. There's no sampled speech from your comrades in wings, just quick text messages. Your rookie wingmen

tend to say confusing things like 'going into defensive formation' before hurtling past you into a swarm of fast-firing enemies. Some problems evaporate with play (for instance, locking on to targets and navigating towards them is so simple it's confusing) but the overall shoddiness undermines the game.

The graphics get the job done, with the occasional nice touch. When you destroy the middle of a tower, for instance, it collapses from the centre out, with chunks of the top crashing into the bottom. Similarly, the pre-rendered sequences are functional, and

you'll probably skip them. It's worth watching the introduction to the FedNet universe – the voice-over sounds like a cheesy 'Remember, the Slurpmaster is only available by mail order' TV ad. The result is something like: 'The Predator Mark IV has wings, enabling you to travel above the ground'.

StarFighter 3000 isn't a classic, but it's good fun. It can be addictive, especially once you suss out the crystals and first fly with your wingmen. Comparisons with Terminal Velocity or Fury are inevitable, but this is a far superior shoot'em-up. (OB)

CD REVIEW

Blast away with the StarFighter 3000 demo on your CD.

DEVELOPER
Krisalis Software Ltd
PUBLISHER
Telstar
CONTACT
01932 222232
PRICE
£39.99
MINIMUM SYSTEM
486/33, 6Mb RAM,
double speed CD
drive, 1Mb hard disk
space

PC REVIEW VERDICT

Innovative and exciting gameplay – you can even shoot the hills. Slightly rough around the edges.





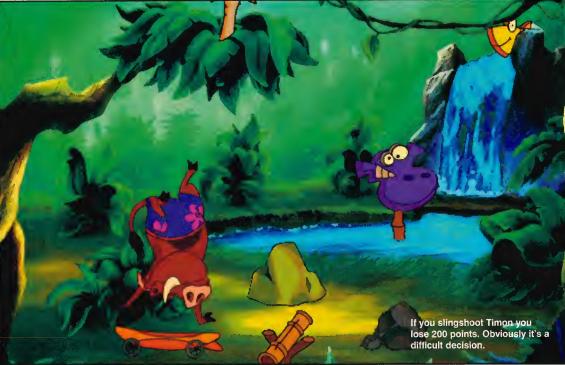
A passing stratoliner waiting to be blasted. Use your air-to-air missiles for this one.



The stratoliner flashes green, indicating that the missile is locked on target.



The enemy makes a futile, laughable attempt to survive, but the Predator will triumph.





Bug drop. The red bug's connected to the red bug. The blue bug's connected to the...



Jungle Pinball is amusing for a white, but only goes to prove that pinball belongs in the pub.

TIMON AND PUMBA'S

JUNGLE GAMES

There's a unique synergy between meerkats and warthogs, and now Disney brings you the game to exploit it.

ungle Games features Timon and Pumbaa, two stars from the Lion King, in a selection of arcade clones and animated skits. Although the wrinkliest adolescent will enjoy the slapstick banter, Disney's main market will be the discerning five-year-old.

Anyway, roll up for Hippo Hop,
Slingshooter, Jungle Pinball, Bug Drop and
Burper. All are gaming stalwarts, remixed to
a jungle beat. Hippo Hop is a Frogger clone
– you try to cross the river without touching
the water. It looks pretty but plays awkwardly.
You run along a hippo's back and try to leap
sideways onto another, but you miss and get
soaked. It's difficult to build up a rhythm, and
the key to successful simple games is losing
yourself in a mantra of repeated moves.

Slingshooter is more successful. You simply point your cross-hair at the bad guys and let loose with your berries. Soon the shooting gallery is chock full of skate-boarding warthogs and wooden parrots on

sticks. Some targets seem invulnerable though, and the distinction between friends and enemies is difficult to discern.

Bug Drop is reminiscent of many games, most obviously *Puyo Puyo* on the SNES. It's a two player head-to-head where you try to match lines of coloured, pulsating bugs. Think *Tetris*, crossed with *Connect 4*. If your timing is right, you can set off chain reactions resulting in unmatchable coconuts falling on your opponents screen. It's addictive, especially against a human.

Burper has Pumbaa shooting at bugs with gastric bubbles. It's like those Game&Watch toys that everyone had at school and seems a good kiddie game, fun at first but ultimately stifling. It's just too dull, even for individuals who spend whole mornings walking down the high street shouting 'car!' every two steps.

Finally, Jungle Pinball proves again that ball-bearings belong in the real world.

Pressing the space bar to nudge your screen

will never rival hip- nudging a pinball machine, sending pints flying and drawing admiring glances from bearded men in leather jackets. On-screen there's no magic. A real life ball ricocheting from a neon toadstool into a roulette wheel demonstrates the beauty of physics in motion. On a computer, it's just a fun delay.

That's Jungle
Games: two fun
games, two
mediocre ones
and a poor one,
plus plenty of
lovely sketches
that you'll watch
once. Some
surface
appeal,
but little
long term
interest.
(OB)

interest.
(OB)

Hippo Hop is let down by an unforgiving control system.



DEVELOPER
Disney Interactive

Disney Interactive

MINIMUM SYSTEM
486DX, 8Mb RAM, dou-

ble speed CD drive,

Fun at first, with

great animation.

play's strictly for the kids.

but the game-

PUBLISHER

CONTACT 0171 292 5272

PRICE £39.99









UNIVERSE of FONTS & ICONS

huge collection of thousand quality True Type and Adobe pe Manager fonts, along with sands of useful iconism als cludes software for veiwing

creating and editing icons, and other usefu ograms for Windows.

£15.9



UNIVERSE of GIFS

Contains over 7000 colour grages and clipart. Images ca loaded direct from the CD an abjects include: Animals, Bikes Birds, Boats, Buildings, Cars Cartoons, Cats, Computers Fantasy, Fish, Flags, Flowers, Food

Insects, and many more. Also cludes viewers and editors.

£17.99



UNIVERSE of **RAYTRACING &** MORPHING MANIA ontains hundreds of programs

llowing you to create amazing ictures & images and also pro our images into weird and won

lerful new creations. Melt one picture into another of imate using one of the included programs.

£14.99



mages, games, sound FX, them ines and documents from all favourite Sci-fi programs biects include Babylon 5, Star Trek, Batman, Dr. Who Thunderbirds, Robocop, Sec Fron, Total Recall, Aliens, Terro

7, Battlestar Galactica and much



COLLECTORS EDITION ncludes levels from: Raptor, colour scrolling aread ction shoot-em up. Alies Carnage, fight your way through ordes of aliens. Wacky Wheel

similar to Mario Kart). Rise of th weapons, war, violence, hlood - need we sa This CD also includes approx. 200 other gre-



EMULATION NATION

Play thousands of games from other computers on the PC using the emulator on this CD ncludes Apple, BBC, C64 lic20, Amstrad CPC, Apple ac, Gameboy, ST, Spectrum

. Includes thousands of you ourite games from the past.

£14.99



DOOM ADD-ON'S

us editors, sound, files, map uff for your favourite games

ADULT SENSATION dult Sensation Volume One

over 4000 high quality



DOOM 2 ADD-ON

rox, 1500 new levels for Doo Hundreds of maps, .wad hints, sounds are als £9.99



laxy of games and program children. Including painting drawing, maths, es, time, alphabet,



£9.99

quality adult type gif pictures fo over 18's only. Also includes viewers, convertors and image

Vindows. This CDRom contains pictures of an adultineme and should not be viewed by anyone under the

£19.99



NIVERSE of GAMES & EDUCATION
CD includes hundreds of Window DOS games and educational prons for all ages. Also included cheats



UNIVERSE of TETRIS & MAHJONG

ontains a huge collection of etris, Mahjong and other card



ADULT SENSATION 2

Adult Sensation Volume Tw eatures a whole new batch of exciting new adult material ncluding adult/sex sound sam ples in .wav, .iff and .voc format adult stories, comical sktches

adult jokes, dozens of either weird, sick o t animations in .fli and .ani format. It also contain



manipulation software. All full



UNIVERSE of ADULT **GIFS VOL 2**

huge collection of over 4000 quality adult type gif pictures fo over 18's only. Also include viewers, convertors and image manipulation software. All fully

compatible with Microsoft Dos an indows. This CDRom contains pictures of an adu

£19.99



UNIVERSE of ADULT GIFS VOL 3

huge collection of over 4000 uality adult type gif pictures for ver 18's only. Also includes iewers, convertors and image manipulation software, All full

ws. This CDRom contains pictures of an adul neme and should not be viewed by anyone under th



quality adult type gif pictures for over 18's only. Also includes viewers, convertors and image manipulation software. All fully

compatible with Microsoft Dos and indows. This CDRom contains pictures of an adulume and should not be viewed by anyone under the

£19.9



LANGUAGE & **DICTIONARIES**

huge collection of dictionar-s, thesauruses, word process

words, spell checkers, transla-de, glossaries, games, fonts and more covers languages such as Arabic, Chinese, Farsi h, Gaelic, German, Greek, Hebrew, Italian apanese, Spanish, Turkish and Yugoslavian.



igh speed action-packed 3E £10.99



FUZZY'S WORLD of GOLF

£10.99



SEND TO: PD CHOICE, BCS House, Watling Street, Bletchley, Milton Keynes MK2 2AZ

Name:

Address:

Description	Quantity		Price
Description	Quantity		riice

		Sub total	
Please add £1.00 per CD for P&P		P&P	
		TOTAL	

payable to P.D Choice Ltd., or please debit my credit/debit card l enclose a cheque for £_ Card Number **Expiry date**

TOP CD-ROM

DUKE NUKEM 3D

ONLY INC VAT

EDUTAINMENT

Casper Brainy Box	£19.99
Fun School 5 4-7 in Dreamland	£18.99
Fun School 5 6-9 in Space	£18.99
Fun School 5 8-11 in Time	£18.99
Fun School Maths 7-11	£16.99
Fun School Paint & Create 5-11	£16.99
Fun School Science & Ecology	£16.99
Fun School Spelling 7-16	£16.99
Incredible Machine 2	£23.99
Lets Explore the Airport	£28.99
Lets Explore the Farm	£28.99
Mario Teaches Typing	£24.99
Mavis Beacon 4	£27.99
Putt Putt Joins Parade	£27.99
Sesame Street Letter	CALL
Thomas the Tank Engine Collection	£12.99
X-Men Cartoon Maker	£8.76

MICROSOFT

Microsoft 500 Nations	£24.99
Microsoft Autoroute Express UK	£49.99
Anicent Lands	£24.99
Art Gallery	£31.99
Beethoven	£33.99
Linemania 96	£24.99
Composers	£41.99
Creative Writer	£24.99
Dangerous Creatures	£23.99
Dinosaurs	£24.99
Encarta 96	£39.99
Fine Artists	£25.99
Golf	£24.99
Wine Guide	£24.99
Oceans	£24,99
Human Body	£33.99
Magic Bus	£25.99

DORLING KINDERSLEY

Eye Witness Encylopaedia Nature	£41.99
Eye Witness Encylopaedia Science	£41.99
The Way Things Work	£41.99
The Ultimate Human Body	£41.99
My First Incredible Amazing Dictionary	£29.99
Stowaway	£29.99
History of the World	£41.99
P.B. Bear's Birthday Party	£29.99
World Reference Atlas	£50.00
Anne Hooper's Sex Guide	£31.99

mile Heeper			
(18)	OVER	18's	ONL

4000 Gif Pics (Adult Sensation)	£20.00
Adult Sensations 2	£20.00
Asian Dream Girls 1	£20.00
Asian Dream Girls 2	£20.00
Best of Shareware Erotics	£20.00
Blondes Have More Fun	£16.00
Bodacious Beauties	£20.00
Bra Busters	£20.00
Busen 1	£20.00
Coloured & Asians	£20.00
Essential Guide to Better Sex	£11.99
European Dream Girls 1	£20.00
European Dream Girls 2	£20.00
European Dream Girls 3	£20,00
Fiesta Magazine	£30.00
Girls Girls	£10.00
Hot Pie - 60 mins Adult Film	£12,00
Hot Spot Women 1	£20,00
Hot Spot Women 2	£20.00
Hot Spot Women 3	£20.00
Hot Spots Sampler	€16.00
My Asian Ladies Collection 1	£20.00
My Asian Ladies Collection 2	£20.00
My Asian Ladies Collection 3	£20.00
Hot Nights in Amsterdam	£22,00
Hot Nights in Copenhagen	£22,00
Pamela Anderson Calendar	£20.00
Penthouse Select-A-Pet	£35.00
Pixels of Passion 1	£24.00
Pixels of Passion 2	£24.00
Pixels of Passion 3	£24.00
Pussymania	£20.00
Sakura	£20.00
Sakura 2	£20,00
Sakura 3	£20.00
Scandinavia Cover Girls 1	£20.00
Scandinavia Cover Girls 2	€20.00
Scandinavia Cover Girls 3	£20.00
Sinful Girls 1	£22.00
Sinful Girls 2	£22,00
Sinful Girls 3	£22.00
Wet Dreams 2	£20,00
Wet Dreams 3	£20.00
Wet Dreams 4	£20.00
Wet Dreams 5	£20.00
Wet Dreams 6	£20.00
Wet Dreams 7	£20,00
Wet Dreams 8	£20.00
Woman from Lechos 1	620.00

DEVELOPER
Sensible Software
PUBLISHER
Warner Interactive
Entertainment
CONTACT
0171 391 4323
PRICE
Floppy/CD
£24.99/£29.99
MINIMUM SYSTEM
486DX/50, 4Mb RAM,
double speed CD drive
20Mb hard disk space,
256 colours

The functional In-game graphics desperately need updating, but gameplay still tops the league.



Sensible World of Soccer European Championship Edition

SWOS has been around for longer than the home computer. Okay, that's an exaggeration, but even the briefest glance at this new Euro cash-cow confirms its classical ancestry. Pitting its graphics against the likes of Euro 96 or FIFA International Soccer is analogous with comparing Subutteo with 90 minutes at Wembley. But like Peter Beardsley, the beauty of SWOS is more than skin deep. It's in the way it plays the game.

The gameplay is glorious and the emphasis is on enjoying your soccer. Shots, passes, headers and the rest are all controlled by just the one fire button. For instance, pressing fire and quickly pulling the joystick back and right causes the ball to sail up the pitch, veering right. It's perfect.

Certain rivals have felt forced to overcomplicate their own control methods just to offer something different.

This Euro incarnation of Sensible Soccer also includes a comprehensive



Gary Neville reacts swiftly to the Dutch threat by waving to his mum.

management simulation. There's even a 20 year career option, where you aim to lead your national team to glory, or to vegetable-hood, on the back pages of the tabloids. With an international transfer market enabling you to pluck the best Moroccan midfield talent, and the greatest tactics designer of all time, the European Edition respectably exhumes Sensible Soccer for perhaps the last time. (OB)



Shearer watches his shot scream past the 2cm high Dutch goalkeeper.

DEVELOPER
Elite
PUBLISHER
Telstar Electronic
Studios
CONTACT
01932 222232
PRICE
£34.99
MINIMUM SYSTEM
486DX/66MHz, 8Mb
RAM, double speed CD
drive, 8Mb hard disk
space, VGA,
SoundBlaster

The PC footie field is jampacked these days, and Onside is just competent midfield padding.



DEVELOPER

PUBLISHER

PRICE

Floppy/CD

£24.99/£34.99

It can't play, it sounds bad and its looks are

nothing very special.

MINIMUM SYSTEM

486DX/66, 8Mb RAM,

double speed CD drive, 60Mb hard disk space,

Anco Software

Anco Software

CONTACT 0171 368 2255

Onside

Things start well in this player/manager game with an attractive rolling demo of the



Officers, arrest the Onside cameraman! He's so drunk he can't even hold the camera straight.

pre-game crowd setting the scene. Unfortunately, the game itself can't quite live up to the packaging.

Your blocky players run out onto a jittery green turf. Both fire buttons control the ball, with different combinations for shooting, chipping and so on. But passing isn't critical in *Onside* anyway since it's fairly easy to run the ball all the way out of defence and score. Where *Kick Off 96* suffers from impossible dribbling, Onside goes to the other extreme. Every player is a Pele or a Gascoigne.

Meanwhile, in the offices of management, you're likely to feel impotent unless you actually take part in the matches. Unlike the best management sims, you don't feel that there's much you can do as a pure coach once your lads have started to lose. You might buy new talent or schedule a frankly laughable penalty training session, or you can get fired as the boss of Manchester United after 12 straight losses. (OB)



Players running purposefully about in Onside. The game suffers from its blocky graphics, although the pace of play is commendably fast.

Kick Off 96

Oh dear. Kick Off, in its many incarnations, never was the easiest game to play. Yet from the first touch you felt the gameplay was worth persevering with. It was frantic yet cohesive, and the unique lack of 'ball glue' meant that dribbling and passing required you to constantly switch left and right to



The graphics in Kick Off 96 are clean, but a little too anti-septic.

retrieve the ball. Kick Off 96 retains this control method, but it has lost the vital playability. Perhaps the games testers at Anco have actually mutated, and their new motorneuron systems are now full optimised for this infuriatingly awkward football game. While this might well enable them to beat Manchester United after just a few hours of practise, we dread to think what happens



A dozen balls spring from your midriff when you make a throw-in in Kick Off 96.

when they attempt to use the gents.

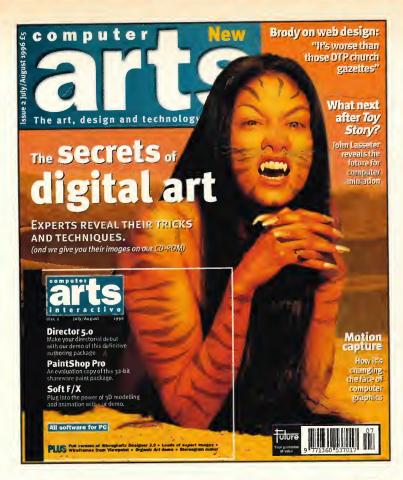
The rest of us will find the game irritating in the extreme. The sampled stranger they've paid to shout 'Goal' when the PC knocks another past you is the final slap in the face. It's possible that after a few days in a dark room you might get the hang of *Kick Off 96*, but when there's top players like *SWOS* out there, why bother? (*OB*)



'Goal!' adds the commentator helpfully, every time the computer scores. 'Goal!' Just 'Goal!'



VERDI





Don't just read about the work other people are creating, discover how to do it yourself. Step-by-step guides like this make it easy to pick up tricks and techniques from other artists, and images on our cover-mounted CD-ROM mean you can't put a foot wrong.

Inside issue two...

News:

Discover the winners at this year's Imagina show, new arts opportunities, upcoming events and Internet news.

Tutorials:

Find out how we created our cover image, Adrian van de Plas tells how he uses scanners in an odd way and Buggy Riphead reveals the secrets behind his great images.

Interviews:

Neville Brody thinks Web designers aren't using the Web properly. 4:2:2 talk about creating great films and we reveal the meaning of anti-art.

Reviews:

The new *Fractal Poser, Extreme 3D* and *Director 5.0* are just some of the new PC products under scrutiny.

On sale now

'Thought-provoking, thoroughly absorbing and intelligently crafted...'

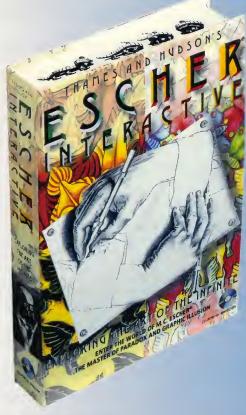
THE TIMES

Whether your interest lies in art, graphic design, science or computers, you should find something to inspire you in the art of Escher.'

COMPUTER LIFE

ESCHER

EXPLORING THE ART OF THE INFINITE



Over 650 pictures • Audio-visual biography
Videos of the artist • Create, print and morph your own designs
Beautiful animations • Stereograms
Fiendish games and puzzles
Multimedia MPC 2



Order ESCHER INTERACTIVE by calling 01252 541602 or faxing 01252 377380 with your credit card details (post free in the UK), also available from good bookshops and CD-ROM stockists.

£49.95 in UK including VAT





It looks like an 80s leftover, but plays like a gunfetishists dream. Return Fire is proof positive that violence is golden.

Mapping it out





Most of the levels in Return Fire are your standard atoll teaming with enemy firepower. One or two look might look a little familiar, though...

RETURN FIRE

ou will send enemy aircraft crashing down to a watery grave. Fuel silos will combust with awesome ferocity, and the opposition's barracks will be crushed. You will destroy buildings – just so your tank can take a short cut. And you will hunt down helpless soldiers as they make a bid for freedom, laughing as you trample them beneath several hundred tons of steel. You will set whole islands ablaze, oh yes. And as the forces of chaos run amok, you can feel safe in the knowledge that *Return Fire* is the sort of game which is a complete stranger to culture and diversity.

This is the game 3D0 owners have been crowing about for so long – mainly because it's one of the few decent games on that console. Bizarrely it seems PC owners have

been missing out, for Return Fire is one of the freshest, downright immediate combat games ever to send shrapnel across a computer screen. It's seems war is good for something after all.

Kill, dodge, kill, get down

In truth there's very little original about Return Fire. Many of the concepts have been seen before, just not all in the same place. The most obvious reference point is the Desert Strike series, but then Return Fire features far groovier visuals, and the addition of three essential vehicles besides the 'copter instantly opens the gameplay right up. In reality the game owes a lot to those old Atari VCS combat games. This is a game of kill, dodge and kill again when it comes

down to it. What initially marks Return Fire out for special attention is the occasionally dizzying 3D system used – an essentially sprite-based affair, but one which not only offers smooth scrolling over the terrain, but also pans in and out, up and down to frame the action as well as possible. The result isn't exactly cinematic, but it's exhilarating all the same. The way the camera pulls back and up as a player sets a jeep bouncing over the ground is something else.

The game features 100 different level maps, which slowly raise the danger factor as the player gets familiar with new types of enemy vehicles, begins to understand the role each of the four vehicles and gets a feel for the strategies. Cruising round in the helicopter is great fun, but it's not the

You will hunt down helpless soldiers as they make a bid for freedom, laughing as you trample them beneath several tons of steel.



Not only is it possible to flatten soldiers on the run, but you can also drive over their tents, leaving a sticky mess behind.



Split screen view. The computer controlled gun emplacements offer some defence while you try to find the enemy flag in your chopper.

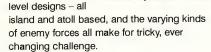


The cam swings into an overhead view for the

The moving camera can occasionally induce sea sickness.

sort of vehicle with which to get into a fight with the numerous gun emplacements. Far better to send the in the heavy ground artillery. Which introduces the problems of navigation, of

course. From these humble beginnings a deceptively complex game design emerges. It's nine tenths bluster and bombshells, for sure. But the juggling of airborne and ground-based vehicles, the various death sequences. Pass the sickbag.



Bring home the flag

The thing is, it's not all kill, kill, kill round here. Well, alright, it is. But there is an objective on each level, namely to capture the enemy flag and bring it home to the base. Naturally, this is a lot easier said than done as the flags can only be collected using the near defenceless jeep. So a pattern sets in, kicking off with air reconnaissance, followed by heavy fire, then a quick run in the jeep to polish off the level. Marvelously simple, but challenging stuff.

And then there's the presentation aspect of it all, and a design which isn't just userfriendly, it's actually got the hots for the unsuspecting gamer. The visuals may look a

bit crummy, but that roving camera view provides a feast for the eyes. Add the excellent explosions, the way scenery can be reduced to rubble and the little soldiers who run about trying to save themselves, and you've got a game with

surprising visual subtlety. Sound and music is where it's really at, though. A bunch of classical themes have been incorporated, from Flight Of The Bumblebee whenever the jeep is taken for a spin, to the Hallelujah choruses which accompany the discovery of the enemy flag. Best of all though, is the way Ride Of The Valkyrie blasts out whenever the 'copter takes to the skies. Fans of a certain Vietnam War film will be delighted. Even the sound of gunfire and countless explosions is tastefully handled - the Dolby enhanced samples sounding crisper than in any other game around. And of course there's the split-screen two player mode. Which is where the fun really begins...



It tends to swoop to strange angles like here.

The two player matches the solo game design, in that there are nine basic levels each with a variable number of maps to play over. The difference is that this time players must attempt to capture the enemy flag while defending their own. Sure, there are computer-controlled defences in the form of gun turrets, but it takes more than that to stop a determined human opponent. Just watching two gamers scrabbling to get the right vehicle out of their base and into the warzone is hilarious. The carnage that ensues is even better.

Lacks longevity

The downside to Return Fire's simplicity is, of course, a very limited lifespan. There are only so many times even the most bloodthirsty will want to roam around samey landscapes blowing everything to Hell and back. The rotational control system makes joystick control a right pain, too - rather frustrating in situations where accuracy is the key to survival, or on land where it's all too easy to get lodged between bits of scenery. But Return Fire also features some of the most fluid arcade action the PC has played host to. What with its Dolby Stereo sound, that ever-panning camera view and enough explosions to blow the planet up several times over, it's a game which possesses the true grit of a classic. Ready for that apocalypse now? (MR)

DEVELOPER Time Warner PUBLISHER Time Warner CONTACT 0121 625 3366 PRICE MINIMUM SYSTEM 486 DX2/66, 8Mb RAM, 0.5Mb hard disk space, Windows 95, joystick optional

If you love the smell of napalm in the morning VERDI then you'll love Return Fire.

PC REVIEW



Trains and boats and planes

Okay, so there aren't any trains. Or boats, for that matter. Or planes. But there is a helicopter and three types of ground vehicle. Here's your whistlestop guide to them.



The helicopter - equipped with two rocket types but little armour. It's mainly for locating the flag.



The jeep - a doddle to blow up, it's only equipped with eight grenades. It's vital for recovering the enemy flag.



The tank - big, bulky and pretty well armored. It's a surprisingly nippy vehicle, but the firepower isn't that impressive.



The armoured missile carrier slow to get there, sure to blow it up when it finally does. A real workhorse of a vehicle.

HOW TO ORDER

Order by telephone quoting your credit card number. If paying by cheque please make payable to: "FIRST COMPUTER CENTRE" in any correspondence please quote a phone number, post code & Dept.

CENTRE" In any correspondence & Dept. quote a phone number, post code & Dept. Allow 5 working days; cheque clearance SHOWROOM ADDRESS: FIRSTCOMPUTERCENTRE, DEPT. PCR, UNIT 3, ARMLEY PARK COURT, STANNINGLEY RD, LEEDS, LS12 2AE. Prices are correct at the time of going to press. Please check our latest prices before cherring; going the prices with the prices are correct at the time of going to press. Please check our latest prices before cherring; going the prices with the prices are correct at the time of going to press. Please check our latest prices before cherring; going to press. Please check our latest prices before cherring; going to press. Please check our latest prices before cherring; going to press. Please check our latest prices before cherring; going to press. Please check our latest prices before cherring to the prices are considered to the prices are cherring t

now available. Please Call!

LOW COST DELIVERY £3.50

2-4 Week DaysNext Week Day

Saturday Delivery £10.00
Delivery subject to stock availability
All prices include VAT @ 17.5%

Large showroom with parking
 Multi-million pound company
 Overseas orders welcome

Educational purchase orders welcome

Telephone FAX: 0113 231-9191 BBS: 0113 231-1422

PC REPAIRS
We offer a FREE quotation on your or any peripheral (monitors, print). A delivery tanks

FIRST CENTRE LIVING M62/M621

E-Mail: sales@firstcom.demon.co.uk | This merge with the A310 permit town curry mid-mets Amely gradue | WEB: www.demon.co.uk/firstcom/index.html

ztech 2X Speed IDE **4X SPEED**

Goldstar 4X Speed IDE £39.95
Plextor PX43CE SCSI £98.95 4X SPEED JUKEBOX

Sanyo CDRC3G (int) IDE (3) £77.95 Pioneer DRM624x SCSI(6) £437.95

6X SPEED Creative 6X Speed IDE £55.95 Plextor PX 63CS SCSI £210.95

8X SPEED

Aztech 8X Speed IDE £98.95

CDRI02 4X Read/2X Write, £635.95 & Windows 95 Software (GEAR)

74 Min. MEDIA 10 off-£69.95 100 off-£619.95



1450 14" 0.28dp Non-Interlaced MPR2 2 Year Warranty

ZIP & EZ DRIVES



omega ZiP External Parallel £170.95 omega ZiP External SCSI £170.95 omega ZiP Internal SCSI £183.95 omega ZiP I35mb Carts £12.95

Syquest EZ External Parallel Syquest EZ External SCSI Syquest EZ Internal IDE Syquest EZ I35mb Carts

intel OVERDRIVE

Intel 486 25/50 - P24T 63MHz £119 Intel 486 33/66 - P24T 83MHz £163,9 Intel Pentium 60 - Pentium 120MHz £268,95 Intel Pentium 66 - Pentium 133MHz £268,95 Intel Pentium 75 - Pentium 125MHz £268,95

	SIMM	S (30 p	in)	1.16
256k Imb	(256x9) (1x9)	70ns 70ns	£10.95 £16.95	A CONTRACTOR
4mb	(4x9)	70ns	£47.95	STATE OF THE PERSON NAMED IN
Imb 4mb 8mb 16mb 32mb	(256x 37 (1x 32) (2x 32) (4x 32) (8x 32)		in) £38.95 £25.95 £54.95 £120.95 £279.95	
	'	RAM		100
4mb 8mb 16mb		70ns 70ns 70ns	£33.95 £67.95 £227.95	Spirite and

CDEAVEDO

, SI LAKLI	
Yamaha YST-M5 6w	£36.95
Yamaha YST-MI0 10w	£42.95
Yamaha YST-MI5 10w	£52.95
Yamaha YST-M20DSP 10w	£59.95
Yamaha YST-MSW 10 25w	£78.95
ScreenBeat Pro 70 70w	£79.95
ScreenBeat Pro 80 80w	£89.95

PC COMPONENTS 586 M/BOARDS

586 CPUs

FIC Triton 256kPB DFI Triton 2 256kPB

01

486 M/BOARDS 486,256kWT,ZIF,DX4,PCI£83.95 486 CPUs

Pentium 75 Intel Pentium 100 Intel Pentium 120 Intel Pentium 133 Intel Pentium 150 Intel Pentium 166 Intel Pentium 180 Intel 6x86 P90+ Cyrix

IDE	HARD DE	RIVES
630mb 850mb	Seagate W.Digital	£136.95 £160.95
1083mb	Seagate	£170.95
1282mb 1620mb	Seagate Seagate	£175.95 £205.95
2113mb	Seagate	£270.95
SCSI	HARD D	RIVES

FLOPPY DRIVES 1.44mb

Mini-Tower (Low Cost) 433 Midi-Tower (Wave Line) 455 Desk-Top (Wave Line) 460 Full-Tower (Wave Line) 481 KEYBOARDS

CASES

102-Key Chicony "Click" £16.9 105-Key Mitsumi Win95 £13.9 105-Key Cherry Win95 £24.9 105-Key Microsoft Natural £63.9 MONITORS

14" 0.28 Non-Int MPR2 (203 15 0.26 Non-Int MPR2 (203 17" 0.28 Non-Int MPR2 (553

86 P120+ Cyrix £125. 86 P133+ Cyrix £162: 86 P150+ Cyrix £210. 86 P166+ Cyrix £365. 686 M/BOARDS

Intel Aurora (ATX) £696.9 Asus NP5 (Baby AT) £439.9 686 CPUs Pentium Pro 150 Intel £524.95 Pentium Pro 200 Intel £692.95 Pentium Pro 200 Intel £692.95

VIDEO CARDS

Trident 8900D Imb ISA £51.95 Cirrus 5428 Imb VLB £48.95 Diamond SE Imb PCI £52.95 CONTROLLERS

Multi I/O EIDE16550 ISA (I Multi I/O EIDE16550 VLB (I Promise DC200M Promise DC420M Adaptec I 505 Adaptec 2842 Adaptec 1945 Bus Logic KT-910A

CD RECORDERS

YAMAHA

MICROVITEC



£203.95

SOUND CARDS CREATIVE

S/Blaster 16 S/Blaster 16 PnP £78.95 S/Blaster 32 PnP £120.95

S/Blaster AWE32 £97.95 S/Blaster AWE32 PnP £144.95 SB16 to SB32 U/G £61.95 SB16 to AWE32 U/G £91.95 GRAVIS

UltraSound PnP £141.95 UltraSound Pro PnP £169.95 UltraSound ACE £69.95

TAPE STREAMERS

anusa 250mb Tape Drive Industry Standard QIC-80 Format Internal £29.95

MEDIA

VIDEO TAPE E180 3-Pack £7.9 E240 3-Pack £9.9 DATA TAPE DC2120XL

SOFT BatteryWatch
Catchword Pro
Cleansweep 95
D.Time 95
Dashboard 95 ataSafe imily Tree Maker Faxtalk for DOS First Aid 95 Hanna Barbera Hijak Hurricane IBM OS/I Warp InterNet Memb Kit InterNet Phone InterNet Suite MagnaRAM I Microsoft Publisher Microsoft Publisher Microsoft Scenes Misoft Windows 95 Microsoft Works 95

CH F16 Combatstick
CH F16 Flightstick
CH F16 Flightstick
CH Flightstick
CH Flightstick
CH Fightstick
CH Fro Pedals
CH Virtual Pilot
CH Virtual Pilot
CH Virtual Pilot
CH Virtual Pilot
Gravis Analog Clear
Gravis Analog Clear
Gravis Fighting Machine
Gravis Fighting Machine
Gravis Fighting Machine
Gravis Gamebander
Horsooft Sidewinder Pro
Horso

FLATBED SCANNERS

All Umax Scanners have the follow All Umax Scanners have the following features:

24-bit Single Pass

Adaptec SCSI Card
Photoshop LE & OCR s/w

12 Months On-Site Swap

S6E 600*300dpi, max res 4800dpi £330.95 **S**8 €584.95 800*400dpi, max res 6400dpi S12 1200*600dpi, max res 9600dpi £699.95

TRUST

All Trust Scanners have the following features:

30-bit Single Pass

SCSI Controller Card

ImagePals GO & OCR s/w

12 Months Warranty

2400 1200*300dpi, max res 4800dpi £299.95 4800 600*300dpi, max res 4800dpi £349.95 9600 1200*600dpi, max res 9600dpi £499.95

HAND SCANNERS

Mustek 256 Greyscale £53 95 Mustek 800dpi Colour £88.95 Sicos I 200dpi Colour (Sheet) £249.95

Supra Modem

Silent & Adaptive Answer Class I & 2 Fax

DOS & Win Fax Software Unique LCD Display
Flash ROM 5 Year Warranty

28,800 Data + 14,400 Fax

lent performance - this modern should be veryone's shortlist - C. Shopper - April 94



- Windows 95 Plug and Play
- MNP2-5, V42&V42b
- 5 Year Warranty

28,800 Data + 14,400 Fax Int £136.95 Ext £153.95

Class | Fax Personal Voice Mail Fax on Demand

Call Discrimination 4,400 Data + 14,400 Fax £98.95

33,600 Data + 14,400 Fax £ 6 .95

COURIER **Dual Standard V34+** With Fax



Stealth 64 Imb DRAM Video Stealth 64 2mb DRAM Video Stealth 64 2mb VRAM Video Stealth 64 4mb VRAM Video £210.95 £345.95

VIDEO CARDS

Imb DRAM 2mb DRAM 2mb VRAM 4mb VRAM Edge 3D Edge 3D Edge 3D Edge 3D

Millenium 2mb WRAM £23
Millenium 4mb WRAM £33
2mb Upgrade £16
4mb Upgrade £25
6mb Upgrade £41

Vok

GrafixStar 400 Imb GrafixStar 600 2.25mb GrafixStar 700 2mb

DELIVERY NOW JUST - £1.18 PER TITLE OR £5.95 FOR 6+

MICCO SOIT

3D Movie Maker 33,

500 Nations 426.
Ant Gallery 43.
Autoroute Exp. UK 448.
Autoroute Exp. UK 448.
Beethoven 626.
Bill Gates Rd Ahead 421.
Bookshelf 95 40.
Compser Collection 40.
Creatv Wr∻Fine Art 40.
Dangrous Creatures 26.
Dinosaurs 20.
Dogs 96 428.

ncarta 96 ncarta 96 W. Atlas xplorapedia rank Lloyd Wright Fraink Lloyd Wrignt Golf Colf Golf Scenery (3.5") How the Leopard Internet Starter Kit I. Asimov J II how the Leopard M. School Bus-Body M. School

Strauss Ult. F. Lloyd Wright Wine Guide

D. KINDERSL
AMA Medical Guide
Childrens MM Dict. &
Encyc of Nature
Encyc of Nature
Encyc Space & Univ. &
History of World
My Ist Amazng World
My Ist Incr. Dictionary
Photo Galy - Birds of
Photo Galy - Cats of
Photo Galy - Cats of
World
Williams Dictionary
Ultimate So Skeleton
Ultimate Human Body
Ultimate Bus Disc L
Virtual Reality Bird
Virtual Reality Cat &
World
World
Reference Atlass
FOOD

D. KINDERSLEY

Control of the Control of the Control of Con

DRINK

Beer Homebrewing Comp World Bartnder Intrctive Wine Guide Wines of the World Wine,Spirits & Beer Bodyworks v5.0
Chinese Medicine
Cmp Guide Symptms
Dr's Home Remedies
Family Doctor v4
Family Health Trcker
Family Health Trcker
Family Hedical Dict.
The Herbalist The Herbalist
History of Medicine
Mayo Heath Clinic
Mayo Heath Clinic
Mayo Sport, Helth, Fit
Mayo Syort, Helth, Fit
Mayo Virtual Body
Smart Heart
Total Heart
For Medicine
For

Bible Explorer 13.95
Bible Heaven 29.95
Bible Heaven 47.95
Bible Heaven 47.95
Bible Power 47.25
Bible Power 47.25
Bible Power 47.25
Bible Rome Creation, Exoduly Joshua, Moses, Noah 41.495
Bibles & Religion 47.295
Charlton Heston Bible427.95
Holy Bible Thactive Bible Study 47.95
King James Bible 420.95
King James Bible 420.95
King James Bible 420.95
King Barles Got the World 43.495

Works

RELIGION

REFERENCE AA Hotels & Rest. 93 £10.95 Animals S.Diego Zoo £10.95 Antartica £29.95 Asimov Lib of Univrse £44.95 Astroscopes £27.95

r Movie/Vid Composer Quest (
Comptons 98 (
David Bellamy's (
David Bellamy's (
Dictinaries & Language
Discveries of the Deep£
Driving Instructor 2 (
Driving Test (
Driv

Incident at Roswell In Srch Acnt Wisdm International Athltics Int. Periodic Table Int to Classici Music Lassie

int to Classici Music Lassie
Learn to do DTP
Legends of Oz
Leg's Play Soccer
Lewis Carol Oz
Let's Play Soccer
Lewis Carol
Marina Monroe
Martial Arts Explere
Marinal Arts Explere
Marinal Arts Explere
Marinal Arts Explere
Mind of a Killer
MTV
Music Quiz
Music Quiz
Music Quiz
Music Nile - Passage Egypt
North Am. Indiano
Ocean Planet
Oceans Below
Oylmpic Godtem
Oxford Thesaurus
Prince Interactive
Rainforest
Real Pic World Atla
Redshift 2
Redshift 2
Redmaissance Era
Remaissance Era
Remaissance Era
Remaissance Era

Redshift 21
Rennaissance Era
Rennaissance Era
Stale Era
Stale Era
Stale Era
Space Encyclopedia
Space Encyclopedia
Space Encyclopedia
Space Visual History
Spanish at Home
Spanish Pronunciat.
Sterogram Wrkshp
Stop Smoking Tody
Weather TrcKrs Kit
Whales & Dolchins

Wnders Muscal Wrld £8.9 World of Reptiles £22.9 WW.II(Glbl Cnflct) £28.9

GAMES

Alien Oddysey Angel Devoid Arc of Doom Bad Mojo Battle Beast Big 100 Big Red Adventure Big Red Racing Bioforge Big Red Racing
Bioforge
Bloodwings-Pumpkin
Blown Away
Caesar 1
Central Intelligence
Champs Manager 2
Chaos Control
Chaos Engine
Chronomaster Chronomaster
Chronicles of Sw.
Civilization 2
Club Dead
Command & Con
C&C Covert Ops
Conspiracy
Cranberries
Crime Patrol
Critical Path
Crusader No Ren

Dragonsphere
Dreamweb
Dust
Ecco the Dolphin
Ecstatica
EF2000 Ecstatica
EF7400
Extreme Games
FIFA Int Soccer 96
Fighter Wing
Fise Defender Gold
Formula Grand Priv 1
Fortress of Dr Radiatif
Freskin Funky Fuzzball
Grandest Fleet
Golden Immorta
Golden

Kings Quest 6 Kings Quest 7 Klik & Play Lands of Lore Last Dynasty Live Action Footbal

Live Action Football
Loom
Lost in Time I & 2
Magic Carpet
Magic Carpet
Magic Carpet 2
Microcosm
Mortal Coil
Mortal
Morta Rebel Assault
Ring Cycle 24.95
Ring Cycle 24.95
Road Warrior 25.95
Road Warrior 25.95
Sam n Max 412.95
Screamball 419.95
Screamball 27.95
Shockwave Assault 42.95
Space Quest 4 49.85
Star Trek Final Unity 213.95
Star Trek Omniberate 22.95
Star Trek Tech Ref 227.95

Track Attack
Transartica
Trivial Pursuit
US Navy Fighters Gld !
War Craft 2
Warriors
Who Shot Johny Rock
Win/Summer Chaling
Wing Commander 4
Worms
Worms Reinfrcemnts
Zephyr
Zorro

MANY MORE TITLES AVAILABLE!

F. Sim Toolkit Hawaii Japan (3.5") Las Vegas New York (3.5") New Zeland Paris (3.5") Tower



This muscley bunch can take on anything Toshinden has to throw at them. Even their hair is rock hard.

Virtua Fighter

Remix

Sega's flagship beat-'em-up comes to the PC for a second bout, this time without the need for a video accelerator.

t's not supposed to be this way. The unwritten rule is that games carrying this amount of hoopla around with them are never all they're cracked up to be. And then there's the fact that PCs just can't do what consoles are capable of, despite costing five times as much. And yet here's Virtua Fighter PC – so much more than just another beat'em-up, and far more impressive than anyone had any right to expect.

There's already been a PC version of Virtua, but last time round only users of the Diamond Edge could get in on the act. With

that card looking an unlikely proposition, it's only natural Sega should come up with this, a speedier

interpretation which relies on decent coding and processing power rather than an extra board to shift its amazing polygonal characters around.

A blend of the original Virtua Fighter and VF Remix, this one includes numerous graphics options to switch off the textures (original *VF* style) as well as a low resolution option for the truly humble machines. But it's when a beefy Pentium gets its data channels on the fully textured version that the gymnastic combat techniques really shine, producing the most dazzling images yet seen in a PC game.

The thing is, as wonderful as the characters look, they prove to be more than mere eye candy. Because they inhabit a 3D space there's a precision offered which the Mortal Kombats and Street Fighters just can't offer. The fighters here grapple, punch, kick



and block with real accuracy, and the relative positions between the combatants is just as crucial as the choice and timing of a move. And boy, what moves there are. Even the standard array of attacks are beautifully fluid, while actions like backflips, flying kicks, and knee drops are poetry in motion.

Remarkably violent poetry, obviously.

The trick with martial arts games is to make the special moves accessible without being too easy to perform, to build just the right learning curve into the control system, in other words. Thanks to its coin-op pedigree this is something *Virtua Fighter* does better than any of the competition. In fact it does pretty much everything better than the rest. Granted the polygons occasionally stick out where they're not supposed to. And the lack of any weapons makes this superficially less spectacular than *Toshinden*. But *Virtua* wins every time in terms of sheer playability, no question.

It's strange that Sega, of all people, should be responsible for the PC's crowning glory. But irony or not, there's no getting away from the fact that Virtua Fighter tweaks the nipples of Toshinden and kicks the arse of every other fighting game out there. So there, punk. (MR)





DEVELOPER
Sega
PUBLISHER
Sega
CONTACT
0181 395 3399
PRICE
£39.99
MINIMUM SYSTEM
486/33, 8Mb RAM,
60Mb hard disk space,
double speed CD-ROM
drive, Windows 95,
soundcard, joysticks
optional

VF is probably the most impressove PC beat-'em up ever. A game of legend.



DEAD HARD

The larger than life fighters in Pray For Death are all actually already dead. Win and Death himself will let the victor walk the Earth once again.



Uriel the fallen angel.



Murgan the demon.



Chtulhu the Ancient.



Sir Maelstrom.



Pantera - rave girl.



Painbringer.

DEVELOPER
Virgin
FORMAT
PC CD-ROM
CONTACT
0171 368 2255
PRICE
£19.99
MINIMUM SYSTEM
486/33, 8Mb RAM,
1200 bard disk space
CD drive

A feast for the senses, and soild gameplay. But will SF and MK owners want another side-on beat-'em-up?



PRAY FOR DEATH



A side-on, non-licensed beat-'em-up in this day and age? Virgin's Italian-sourced stallion has a few tricks of its own up its streetfighting sleeves.

wo words: Killer Instinct. There, that's the glaringly obvious reference point out of the way. For the gamer who doesn't inhabit that shady land where coin-op arcade games rule, Killer Instinct is an old school beat-'em-up, designed by Rare for Nintendo, dressed up to look like a thoroughly modern martial arts fest.

Mountains of shiny pre-rendered animations are used to bring odd fighting characters to life in matches which are always packed with explosive effects and complemented by lovingly detailed backdrops.

The only problem with Killer Instinct is that behind all the attention grabbing noise, it's just another Street Fighter or Mortal Kombat game, lacking the fashionable 3D of Virtua Fighter et al. And so it is with Pray For Death – if nothing else, then surely the most beautiful of the 2D beat-'em-ups on the PC.

Obviously what will draw many to *Pray For Death* is the outrageously masterful graphical effects. Not only does this game power along on the most humble of machines, it does so while scaling the action in and out, producing shadows and coloured light effects, moving the whole background around with a real 3D parallaxing effect. On some levels it even adds water ripples, reflections and splashes. Add this little lot to the transparency effects, the washes of

blood, screenfulls of sparks and fighting characters who strut their 400 frames of animation while filling huge portions of the screen, and it's hard not to believe that PC graphics really have come of age. Only the bittiness of the low res VGA mode lets things down, but even this is negligible when the thing is in motion, which is most of the time.

With such a feast for the eyes it would have been all too easy to toss outmoded concepts like playability aside, but *Pray For Death* isn't one to do things by half. *Rise Of The Robots* this ain't. Consequently, it plays as mean as it looks, with ten larger than life – almost larger than the screen – characters, each with fluid controls, a whole bunch of special and hidden moves, and just enough personality to get players relating to them. The size and animation bias of the fighters does restrict the action to close-up brawling,

however. The sense of space and poise of Street Fighter 2 bouts is sadly lacking. But that's pretty much the only cause for complaint, aside from the fact that real 3D beat-'em-ups are beginning to make these side-on efforts appear just a little dated, despite all the graphical treats. Top marks for the level of user control, though – from the numerous solo, dual and multi-player game options to the graphical cut-backs for less powerful machines. And all this for 20 quid.

Had Pray For Death been released a year ago, there'd be no doubt about it getting a rapturous reception. As it is, side-on beat-'em-ups are less that fashionable right now, particularly those without a coin-op pedigree. That said, every self-respecting PC owner really ought to check it out. It really is the most frenetic old school martial arts game around. (MR)

KILL AND KILL AGAIN



The key to winning is mastery of the special moves.



Here Painbringer unleashes his Electro Death special.



Then squashes Xenobius into a bloody pulp. Splat.



PC CD GAMES

HELPI COMPILATION
DUNE 2, PRINCE OF PERSIA,
PUSH O VER, PRO TENNIS TOUR,
PINBALL DREAMS, HUMANS, FI RACING,
LEADERBOARD GOLF, SUPER VGA
HARRIER, SHERLOCK HOLMES &
JACK IN THE DARK 16.99

HIT SQUAD COLLECTION VOL 2 ZOOL, PREMIER MANAGER, LOTUS 3 • 12.99

PRICES INCLUDE VAT & DELIVERY

32 Bit, 72 Pin StMM's, 70 Ns Access time, Non-Parity 4 MB RAM SIMM 29.99 inc VATor 57.99 matched pai 8 MB RAM SIMM 56.99 inc VAT ... or 109.99 matched pair

or 231.99 matched pair 16 MB RAM SIMM IF YOU HAVE A PENTIUM MACHINE WE ADVISE BUYING RAM IN PAIRS

X-COM (UFO V1.5) 18.99 ...£26 HIT SQUAD COLLECTION VOL 2

ZOOL, PREMIER MANAGER, LOTUS 3 • 12.99

X-WING COLLECTION

X-WING, B-WING, IMPERIAL PURSUIT

X-WING, B-WING, IMPER



MS 3D MOVIE MAKER FOR WINDOWS 95 ... 35.99
MS AUTOROUTE EXPRESS
UK AND IRELAND ... 49.99
MS ENCARTA 96 ... 40.99
MS ENCARTA WORLD ATLAS 96 FOR WINDOWS
95. NEW WORLD ENGLISH
VERION OF THIS EXCELLENT ATLAS ... 42.99
MS MAGIC SCHOOLBUS EXPLORES ... 29.98

OTHER TITLES

DK ULTIMATE HUMAN BODY ... 32.99
DOGZ ... 14.99
DOGZ ... 14.99
EMULATORS UNILIMITED ... 19.99
ESCHER INTERACTIVE BMB ... 44.99
FIRST AID FOR WINDOWS 95
FLAGTOWER HISTORY OF MEDICINE ... 32.99
FLAGTOWER HISTORY OF MEDICINE ... 32.99
EGOFF HAMILTON'S GARDEN DESIGNER 18.99
GUINESS MULTIMEDIA ... 19.99
BUINES MULTIMEDIA ... 19.99
BUINES MULTIMEDIA ... 19.99
HARCH SET CH WINDOWS 95 ... 44.99
HARCH SET CH WINDOWS 95 ... 44.99
HONDIDENT AT ROSWELL ... 14.99
NOLDENT AT ROSWELL ... 14.99
LARPH WAGGIO'S ESSENTIAL INTERNET ... 23.49
LE LOUVIR E ... 24.99
MICRO FIRENCH CD ... 27.99
MICRO FIRENCH CD ... 27.99
MICRO MATHS CD ... 29.99
MONTY PYTHONS QUEST FOR THE HUY GRAIL.

MUPPETS INSIDE ONE WORLD
OUCKEN V5 MM. SPECTRUM CD 96
STAR TERK KLINGON
IMMERSION STUDIES
STING "ALL TRUE TRUE"

MS MAGIO SOFOCED SAFE THE SAFE

"TOTALLY OUTRAGEOUS FOR UNDER £1500"

TOTALLY OUTRAGEOUS FOR UNDER \$1500'

QUAD FROM BOPTS, SIXT FROM BUTSH, MIX. FROM BYST, MIX. FAV.

**2500 MB Big Foot Hard Drive
**Sound Blaster 32 Wave card
**Diamond Staalth 54 Bit
**Graphics & Windows
**accelerator (with Video C)
**256K Cache. Fast EDO Ram
**Samsung 14" SVGA Monitor
**Speakers & Microphone
**Keyboard & Mouse
**1 Year On-site Warranty

**CALL US ON 01279 600204

EXTRAS FOR YOUR PC

PHASE 9
PHANTOM 2+
JOYPAD
16.99
DIGITAL,



ITSA MOUSE FOR PC 10.99 VARIABLE RESOLUTION, 2 BUTTON SERIAL MOUSE WITH LONG CORD. INCLUDES DRIVER

CREATIVE LABS SIX	inc V	AT ex VAT
SPEED CD ROM DRIVE	79.99	68.08
INTERNAL 14.4 FAX/MODEM FOR PC		
IBM 1.7 GB (1660 MB) 3.5" HARD DRIVE	.229.99	195.74
DIAMOND 64 BIT 2MB PCI GRAPHICS CARD	89.99	76.59





OR 3 CLASSICS FREE

OFFER FREE ON CD ROM



CHECK OUT OUR

BUY THE FUTURE FOR OUR

TRIAL MEMBERSHIP ONLY £1.00 (1 MAGAZINI ONE YEAR MEMBERSHIP £7.00 (UK) £9.00 (EC) £11.00 (WORLD) ONE YEAR MEMBERSHIP £7.00 (UR) £3.00 (EQ) £11.00 (WR-C-1)
By one ilem as you join for a year and well give you a choice of great FREE gith
Over £50,000 people have joined and Special Reserve has 80 decidealed staff.
Members are under no obligation to buy anything. Our regular club magazine
contains a staggering selection of products, many at below trade price.
Hundreds of pages of information on our internet site at www.reserve.co.uk.
Amazing club shops at Chelmstord, Essex and Sawbridgeworth, Herts.
PC repairs & upgrades at Sawbridgeworth (e.g., your 486 to Pentium by mail
No Quibble relum policy £4 min or 2.5% - see the club magazine for details Overseas orders must be paid by credit card Hardware ilems (battery or mains) are only supplied to the UK mainland Overseas surcharge £2.00 per software ilem or 25% on other items Name & Address Enter membership number (if applicable) or NEW MEMBERSHIP FEE (Annual UK £7) | Nease use Ihis box to add any optional fast delivery charge | 1st Class Post 50p per posted item or £3 hardware ALL PRICES INCLUDE UK POSTAGE & VAT Cheque/P.O./Access/Credilcharge/Switch/Visa

SPECIAL RESERVE P.O. BOX 847, HARLOW, ESSEX, CM21 9PH

PO Box 4, Wolverhampton WV1 1XB, Tel 01902 27653 : Fax 01902 820177

No Hidden Charges. All prices include VAT & 1st Class Postage, in the UK. Open 9-5, 6 days a week. Most orders despatched within 24 Hrs, if your product is out of stock we'll always notify you. Next day post Guarantee \$4.

Cheques payable to Game Express. Send your orders with details of Name, Address, Game, machine and cha guarantee number. EC orders add £2 p&p, the rest of the world £2 per item. Please phone for availability. E&OE.

	3.5	CD
1000 Games & Education	fN/A	£6.99
200 Angee Games	£N/A	£6.99
300 Games Windows	£N/A	£6.99
200 Apogee Games 300 Games Windows 3D Ultra Pinball	£N/A	£22.99
7th Guest 20 Wargame Classics Inc. Great Naval 3, D Day, W Absolute Zero	£N/A	£9.99
Inc Great Naval 3 D Day W	arlords & 1	7 Others
Absolute Zero	£N/A	£29.99
Abuse Aces Deep Win95	£N/A	£29.99
Aces over Euro	£Ν/Α	f9 99
Actua Soccer	£N/A	£29.99
AD&D Master Collection	£N/A	£30.99
Ravenloft 1&2, Darksun 1&2	, Menzo &	Al Qadim
Afterlife	CAILA	£20.99
AH64D Longhow	fN/A	£34.99
Afterlife AH64D Longbow Alone in Dark Alone Dark Trilogy Allied General American Civil War Anvil of Dawn Anache Longbow	£N/A	£12.99
Alone Dark Trilogy	£N/A	£29.99
Allied General	£N/A	£29.99
Anvil of Dawn	fN/A	f29.99
Apache Longbow	fN/A	£19 99
Ascendancy	£N/A	£29.99
ATF	£N/A	£32.99
Atmosfear Harb	£N/A	£27.99
Azraels Tear	tN/A	£29.99
B.G. Waterloo	£N/A	£29.99
ATF Armosfear Harb Azmels Tear B.G. Gettysberg B.G. Waterloo BI7 Baseball Grandslam Battle Cruiser 3000 Beavis Butt-Head Beneath S S & Cannon F Betrayal of Krondor Bermuda Syndrome Big Red Racing. Bigforce	£N/A	£14.99
Baseball Grandslam	£N/A	£TBA
Reavis Butt-Head	fN/A	f21 99
Beneath S S & Cannon F	£N/A	£16.99
Betrayal of Krondor	£22.99	£N/A
Bermuda Syndrome	tN/A	£29.99
Big Red Racing Bioforge Campaign 1 or 2 Cannon Fodder 1 or 2 Caesar 2 Center Court Champ Manager 2 Champ Manager 2 Champ Manager 2 Chore Souther 5000 Win95 Chronomaster Citizens	fN/A	£12 00
Campaign 1 or 2	fN/A	f14.99
Cannon Fodder 1 or 2	£N/A	£9.99
Caesar 1	£N/A	£9.99
Caesar 2	£N/A	£24.99
Champ Manager 2	£N/A	£19.99
Champ Manager 2 Foreign	£N/A	£19.99
Chess Master 5000 Win95	£N/A	£29.99
Citizens	tN/A	£24.99
Civilization	£14.99	£14.99
Civilization	£N/A	£32.99
Colonization	£N/A .	£19.99
Command & Conquer	£N/A	£29.99
C&C Covert Operations	tN/A	£12.99
Complete Carrier War	£N/A	£29.99
Colonization Command & Conquer C&C Covert Operations C&C Red Alert Complete Carrier War Congo Conquest New World Crusader N Coveria?	£N/A	£27.99
Conquest New World	£N/A	£29.99
Crusader N R	£N/A	£32.99
Cyberia 2		
D.	. £N/A	£27 99
Daggerfall Daley Thompson	£N/A	£34.99
Daley Thompson	±N/A	£29.99

	ช.อ	Li D
Day of the Tentacle Death Keep Death Trap Dungeon Defcom 5	£9.99.	£9.99
Death Keep	£N/A	£29.99
Death Trap Dungeon	£N/A	£29.99
Defcom 5	£N/A	£29.99
Descent	£N/A .	£19.99
Descent 2	£N/A	£32.99
Des. & Jungle Strike OEM	£N/A	£8.99
Dog Fight	£N/A	£14.00
Descent. Descent 2 Des. & Jungle Strike OEM Discworld Dog Fight Dogz	fN/A	£12.99
Doom 2 OFM	£N/A	£10 00
Doom 2 + Cybernad	.£N/A	£33.99
Dorling Kindersley	CALL	CALL
Oragons	£N/A	£25.99
Oragonsphere	£N/A	£14.99
Jream Machine	tN/A	127.99
Duke Nukem 3D	tIV/A .	£28.99
Duke Nukem 3D S/ware	£4.99	£0.99
Dogz Dom 2 OEM Doom 2 + Cyberpad Dorling Kindersley Dragons Dragons Dragons Dragons Dragons Dragons Draum Machine Duke Nukem 3D Duke Nukem 3D Dwake Nukem 3D Sware Dune 1 or 2 Dunggeon Keeper	CAT/A	C24 00
Dungeon Keeper		£10.00
Sortheigae	fN/Δ	f9 99
Parthsiege 2	.£N/A	£29.99
Earthworm Jim 1 & 2	£N/A	£21.99
EF2000	£N/A	£34.99
Euro 96	£N/A	£27.99
Suro Manager	tN/A	£21.99
Evenness Dask Vol 1	CNIA	£12 00
Lan Diagram Cook Vol 1	ith Megal	Page Dune
Duke Nukem 3D S/ware Dune I or 2 Dungeon Keeper Dungeon Keeper Dungeon Keeper Dungeon Master 2 Farthsiege . F	iiii, iviega i	Nace Duile
Extractors	£N/A	£19.99
Extreme Pinball	£N/A	£29.99
Eye of the Beholder 2 or 3	£12.99	£12.99
Pharkas F.P	£N/A	£9.99
I Grand Priv	£14.99	£14.99
F1 Grand Prix 2	fN/A	£32.99
F1 Manager	£N/A	£32.99
F14 Fleet Defender & Scenario	£N/A	£14.99
Fable	£N/A	£27.99
Fade to Black	$ \pounds N/A$.	£19.99
Falcon 3.0	£N/A	£14.99
Pantasy General	£N/A	£24.00
Fields of Glory	£14.99	£14.99
FIFA 96	£N/A	£34.99
FIFA Soccer	£N/A	£12.99
FIFA Soccer & PGA Golf	£N/A	£17.99
Fire Fight	£N/A	£27.99
First Encounter	£N/A .	£14.99
Flash Back	£N/A	£9,99
Flight 51m Flight 5nop	EN/A	£26.99
Flux	fN/A	£14 99
Football Glory	£N/A	£9.99
Fire Fight First Encounter Flash Back Flight Sim Flight Shop Flight Untimited Win95 Flux Cootball Glory Frontier Elite 2 Eury 3 Eury 3 Eury 5 Eury 6 Eury 6 Eury 7 Eury 7 Eury 7 Eury 7 Eury 8 Eury 8 Eury 8 Eury 8 Eury 9	£9.99	£9.99
Fury 3	£N/A	£29.99
Fuzzy's Space Golf	£N/A	£9.99
Gabriel Knight	£N/A	£9.99
Candon Ware	CAIIA	£27 00
Genuer Wars	ENIA.	£22.00
Grand Flix Mailager	CNI/A	CO 00

	3.5	CD
Harris a James No.	£14.00	£14.00
Harrier Jump Jet	£14.99 .	C20.00
Harrier Jump Jet Heart of Darkness Hell	IN/A	
Hell	IN/A	C20.00
Heretic	tN/A	£29.99
Heroquest Hexen Hexen Death Knights Hind	tN/A	£6.99
Hexen	£29.99 .	£29.99
Hexen Death Knights	£N/A	£16.99
Hind	£N/A	£IBA
Hole in One	LI/.YY .	
lan Botham	£N/A	£29.99
Indy Car Racing	£N/A	£9.99
Indy Car Racing 2	£N/A	£27.99
Indy Jones Desktop	£9.99	£N/A
Indy Jones Fate Atlantis	£12.99 .	£12.99
Iron Angels	£27.99 .	£34.99
lan Botham Indy Car Racing Indy Car Racing 2. Indy Joras Desktop Indy Jones Pate Atlantis Iron Angels Jazz Jackrabbit Johnny Bazookatone OEM Judge Dredd Kick Off 96 Win 95 Kingdom of Magic Kings Quest Coll. 1-6 Kings Quest U-1 Lands of Lore	fN/A	£14 99
Johnny Bazookatone OFM	fN/A	£0 00
Judge Dredd	fN/A	£24 99
Viel Off Of Win Of	£17.00	£24 00
Visadom of Mario	ENI/A	£20.00
Kingdom of Magic	ENI/A	£22.00
Kings Quest Coll. 1-0	CNIA	60.00
Kings Quest VI	CNIA	£12.00
Lands of Lore	CNI/A	CTD 4
Lands of Lore 2	CATAL	CIO
Legend Kyrandia	tN/A	12.99
Lemmings Paintball	tN/A	\$23.99
Links 386 & Courses	CALL .	CALL
Lion King Win95	£N/A	£16.99
Little Big Adventure	tN/A	£12.99
Lord of the Ring OEM	£N/A	£16.99
Lure of Temptress	£9.99	£9.99
M4 Tank	£N/A	£22.99
Magic Carpet Plus	£N/A	£12.99
Magic Carpet 2	£N/A	£32.99
Magic Gathering	£N/A	£29.99
Lands of Lore 2. Legend Kyrandia Lemmings Paintball Links 386 & Courses Link 386 & Courses Link 380 & Adventure Lord of the Ring OEM Lure of Temptres M4 Tank Magic Carpet Plus Magic Carpet Plus Magic Carpet P. Magic Martin G. Master Orion D. Master Orion 2. Mech Warrior 2 Missions Mech Warrior 2 Nissions Mech Warrior 2 Nissions Mech Warrior 2 Network Mega Pack 5	£N/A	£16.99
Master Orion	£N/A	£14.99
Master Orion 2	£N/A	£29.99
Mech Warrior 2	£N/A	£30.99
Mech Warrior 2 Missions	£N/A	£18.99
Mech Warrior 2 Network	£N/A	£9.99
Mega Pack 5 Flight Unlimited, Entomorph, Fighter, Jagged Alliance, Prim T. Velocity, Pinball Fantasies,	£N/A	£20 00
Clickt Helimited Entomorph	Great Nov	al A EY
Fight Chilingto, Entoniorph,	ol Page	ai 4, 1 A
Tighter, Jagged Alliance, Film	Westerde	,
1. Velocity, Filibali Falkasies,	mariorus 2	
Metal Marines	IN/A	£20.99
Micro Machines 2		129.99
Microsoft Flight Sim 5	£30.99	£30.99
Microsoft Dangerous Cr	tN/A	£14.99
Microsoft Golf 1	£N/A .	£9.99
Microsoft Golf 1 Microsoft Golf 2 Microsoft World Flight	£N/A	£29.99
Microsoft World Flight	.fN/A	£19.99
Millennia Monkey Island	fN/A	£29.99
Monkey Island	.fN/A	£12.99
Monopoly	fN/A	£29 99
Monty Python C WT	fN/A	£29 90
Monopoly Monty Python C.W.T Monty Python Holy Grail Mortal Coil Mortal Kombat 3	CNI/A	620.00
Montal Cail	CNIA	£24.00
Mortal Coll	CNI/A	£20.00
Monai Kombat 3	LIN/A	£29.99
Mvst OEM	£N/A .	£19.99

 Normality OEM
 £N/A
 £19.99

 Official Rugby WC
 £N/A
 £21.99

 Offensive
 £N/A
 £29.99

£N/A ...£19.99

		U. U	40		
	On Side	.£N/A	£26.99	Stonekeep	EN/A
				Storm Street Fighter 2 Strike Commander SU 27 Win/DOS	£N/A
	PBA Bowling	.£N/A	£21.99	Street Fighter 2	£N/A
	Perfect General 2	.£N/A	£29.99	Strike Commander	£17.99
	Perfect Pinball	£N/A	£14.99	SU 27 Win/DOS	£N/A
	Overlord PBA Bowling Perfect General 2 Perfect Pinball PGA 486 PGA European PGA Saggrass Data Phantasmagoria	£N/A	£12.99	SU 27 Win/DOS Syndicate Syndicate Syndicate Wars System Shock Terminal Velocity Terminator Future S Terranova	£N/A
	PGA Furonean	£N/A	£34.99	Syndicate Wars	£N/A
	PGA Saworass Data	fN/A	£16.99	System Shock	£29.99
	Phantaemagoria	€N/A	£34.99	Terminal Velocity	£N/A
	Pirotec Gold	FN/A	£14.99	Terminator Future S	£N/A
	Police Queet Swat	fN/A	£30.99	Тегтапоча	£N/A
	Phantasmagona Pirates Gold Police Quest Swat Populous & P Monger Power & Corruption Lies Inc. UFO, F14 Tomcat, Dune 2	£N/A	£12.09		
	Power & Corportion Lies	fN/A	£27 00	Theme Park	£N/A
	Inc. LIEO ELA Tomost Dune 3	and Done	th C C	Theme Park & Trans Tvc	£N/A
	Provide Death	CNI/A	£16.00	The Dark Eye The Dig This Means War Tie Collection	£N/A
	Pray for Death Premier Manager 2 Putty Squad	CNI/A	£6 00	The Dig	£N/A
,	Premier Manager 2	CNI/A	£27 00	This Means War	£N/A
	rutty squad	CNI/A	C20.00	Tie Collection	£N/A
	Putty Squad Quarantine Raptor Rayman Rebel Assault Red Shift 2 Renegade RJ. Star Reum Fire Sam & Max Sampras Ex Tennis Screamer	CNI/A	.£29.99	IIII	/A
	Quarantine		.£10.99	Time Commando	£N/A
	Kaptor		.19.99	Time Communication Time Gate TNN Fishing Top Gun F.A.W Toshinden Total Distortion	CNIA
	Rayman	tN/A	.£25.99	TAINI Ciabina	CNI/A
	Rebel Assault	tN/A	.£8.99	Ton Cun E A W	ENI/A
	Red Shift 2	tN/A	.139.99	Top Guil F.A. W	CNIA
	Renegade R.J. Star	£N/A	.£29.99	Tetal Distortion	CNI/A
	Return Fire	£N/A	.£29.99	Total Mania	CNI/A
	Rise Triad	£N/A	.£12.99	Total Mania	CNI/A
	Sam & Max	£12.99	.£12.99	Tower Carrage Carrage	C10 00
	Sampras Ex Tennis	£N/A	£29.99	Toy Story Screen Saver	LIO.99
	Screamer	£N/A	£22.99	Tracksuit Manager 2	
	Sensible Golf	£24.99	.£24.99	Transport Tycoon	£10.99
	Sensible World of Soccer	£24.99	.£27.99	Trophy Bass	CNI/A
	Settlers 1	£18.99	.£N/A	Total Mania	XIN/A
	Settlers 2	£N/A	£27.99	U Boat	IN/A
	Sampras Ex Tennis Screamer Sensible Golf Sensible World of Soccer Settlers 1 Settlers 2 Shannara Shell Shock Shivers Silent Hunter	£N/A	£27.99	UFO	tN/A
	Shell Shock	.£N/A	£26.99	Ultima Underworld 1 & 2	tN/A
	Shivers	£27.99	£29.99	Ultimate Doom	£19.99
	Silent Hunter	£N/A	£29.99	Under Killing Moon	IN/A
	Silent Service 2	£NI/A	£12 00	UBoat UFO Ultimate Doom Under Killing Moon Viking Conquest Virtua Fighter Virtual Chess Wacky Wheels War at Sea.	
	Silent Steel	CNI/A	£27.00	US Navy Fighters	.£N/A
	Silent Thunder	CNIA	£20.00	Viking Conquest	£N/A
	0' 1 1	CRICA	C10 00	Virtua Fighter	£N/A
	Sim Ant	CNIA	£0.00	Virtual Chess	£N/A
,	Sim Ant. Sim City Sim Earth Sim Isle Sim Life Sim Tower	CNI/A	C10.00	Wacky Wheels	£9.99
	Sim Earth	CNI/A	.£10.99	War at Sea	£N/A
	Sim isie	CNI/A	£10.00	Warcraft 1 or 2	fN/A
	Sim Life	CNIA	£10.99	Warefull Day Day	CATIA
	Sim Town	CNI/A	£29.99	Warcraft 2 Dark Portal	ZIV/A
	Sim Town Simon Sorcerer 1 and 2 Simon Sorcerer 1 and 2 Skull Cracker Slipstream 5000 OEM. Soccer Stars 96, kick Off 3, Fl Space Hulk &	CNI/A	£12.00	Warcraft 2 More War Warhammer Dark Cru Warhammer SOHR Win3.1	£N/A
	Simon Sorcerer	CNI/A	.£12.99	Warhammer Dark Cru	£N/A
	Simon Sorcerer I and 2	CNI/A	.£29.99	Warhammer SOHR Win3.1	£N/A
	Skull Cracker	CNI/A	29.99	White Lines Inc. Super Karts, F1 Grand Pri Wing C.2 & Hi Octane	£N/A
	Supstream 5000 OEM	CNI/A	£0.99	Inc. Super Karts, F1 Grand Pri	x.Indv Car
	Soccer Stars 90	CA Down	.1.24.99	Wing C.2 & Hi Octane	£N/A
	inc. On the Ball, Kick On 5, F	ra, Piem I	C12.00	Wing Commander 3	£NI/A
	Space Hulk	IN/A	C17.00	Wine Commander 4	CNIA
	Space Hulk & Sys Snock			Wing Commander 4	CNIA
	Space Hulk VOTBA	tN/A	134.99	Wing Commander Armada	CNI/A
	Spaceward Ho	£27.99 .	£27.99	Wing Nuts	CNIA
	Speed Haste	tN/A	£24.99	Wipeout	IN/A
	Spycraft	tN/A	£29.99	Wing Commander 3 Wing Commander 4 Wing Commander 4 Wing Commander Armada Wing Nuts Wipeout Witchaven 2	IN/A
	Star Crusader	±N/A	£12.99	Wooden S. Iron Men	
	Star Lord OEM	±N/A	£19.99	World Rally Fever	tN/A
0	Spycraft Star Crusader Star Lord OEM Star Trek 25th Star Trek 25th Star Trek J. Rights Star Trek J. Rights Star Trek J. Rights Star Trek Klingon Star Trek T.N. G Star Trek Screen Saver Star Trek Screen Saver	£N/A	£12.99	Wooden S. Iron Men World Rally Fever. Worms Worms Reinforcements. X Comm T.F.T.D. X Fighter X-Wing Z Zoop	£23.99
•	Star Trek Deep Space 9	£N/A	£27.99	Worms Reinforcements	tN/A
	Star Trek J. Rights	£N/A	£12.99	X Comm T.F.T.D.	
	Star Trek Klingon	£N/A	£29.99	X Fighter	tN/A
	Star Trek T.N.G.	£N/A	£29.99	X-Wing	£9.99
9	Star Trek Screen Saver	£N/A	£17.99	Z	£24.99 .
	Starfighter 3000Steel Panther	£N/A	.£29.99	Zoop	£18.99 .
	Steel Panther	£N/A	£29.99	Zork Nemesis	£N/A

£12.99 £29.99 £27.99 £26.99 £9.99 £24.99 £29.99





Yamaha DB50XG

237 Synthesisers, 51 Guitars, 48 Pianos, 21 Electric Pianos, 43 Organs, 88 Basses, 21 Drumkits, 73 Strings, 161 Percussion and 71 Brass Instruments, 21 Choirs, 115 Special Effects, Plus 61 types of DSP.

All in your PC for JUST £149.95 with MPC 401 motherboard £199.00 with Cakewalk Home Studio £209.99



URN YOUR COMPUTER INTO A

SOUND STUDIO Midi Keyboard

Plus music software & leads

From only £79.99

READY TO PLAY

Computer software and instruments for all skill levels from novice to professional



SOFTWARE FROM: Stainbard All in stock and on demo

Rock Guitar Jazz Guitar **Paul Gilbert Blues Guitar Blues Piano**

£34.95

The five new interactive CD **ROM titles**

GUITAR HITS

- Lyrics, music scores, tablatures and cord diagrams
- Over 84 lessons and 180 exercises for 7 acoustic arrangements
- Full motion video clips with full screen view option
- Full or part song playback
- Continuous replay



The best known sequencers for beginner to pro.

Express	£69	.95
Home Studio	£99	.95
Pro		
Pro Audio		

Stambara

CubasesWAS £149.00NOW £89.99

Cubases Audio ...WAS £249.99NOW £149.99

Cubases V3.....IN STOCK

SPECIAL

Full size MIDI keyboard with full MIDI, patch, & pitch bend control

Plus! Powertrax S/ware RRP £199.95

our price £129

Cubase software now in stock - Call for Details



382 Stratford Road Shirley Solihull



11 Market Street Tamworth

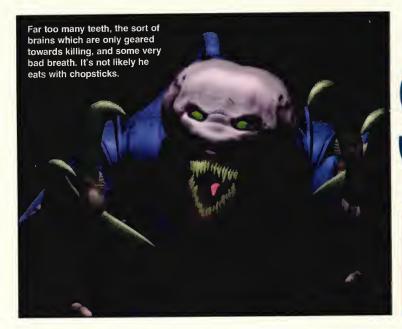


PUT A TIGERIN **YOUR PC**

Upgrade to Pentium power for under £300!







Space

Games Workshop's successful sci-fi based role-playing war machine takes the battle to the PC for the second time - with blood-curdling effect.



Uriel watches on as one of his compatriats wastes a gene stealer.



If an alien gets hold of a soldier's suit the only hope is to fry him.



The humans torch another room - taking care not to blow themselves up too.



The real work is actually done one this troop command screen.



It may lack the finesse of Doom, but it's a winner when it comes to blood.

Iready a successful role-playing wargame and the subject of one PC ∆game, Space Hulk is a weird mix - a medieval science fiction setting for countless claustrophobic close combat battles inside huge, ancient Space Hulk craft. Equipped with age old combat suits and a questionable range of weapons, the humans under player guidance must achieve their mission objective while battling with their enemies, the gene stealers. A truly frightening bunch, these psychotic creatures look like a cross between the monsters from Alien and the nasty breed found in the Predator films. Their habit for clawing right through hapless humans is remarkably similar, too.

A thoroughly modern blend of straight action and genuine strategy styles, the many solo or multi-player network missions (including deathmatch and co-operative modes) charge players with controlling anywhere between one and a dozen troops. It's possible to switch the view to any one troop, and to take direct control - but guiding just one bloke around by hand isn't going to get the good guys very far on most missions. Hence the strategy element, where orders can be given to the troops on a map screen, from which game time is frozen - albeit only for a limited amount of time. Orders can include simple movement, retreating, opening and closing doors, retrieving objects, or flaming designated rooms. Flaming features heavily in the mission objectives, though some just require switches to be set, while others are simply set the challenge of surviving for a few minutes.

Graphically Space Hulk is most effective - the tight corridors giving a suitably hemmed in feeling, while the strange mix of medieval and chrome settings lends the game a very moody air. The gene stealers

are the game's crowning glory however, sprinting through the corridors like things possessed, and getting so close as to fill the whole screen. Such moments are genuinely chilling as troops desperately try to fry the enemy before they can land a lethal blow - reducing the player's video signal to white noise, then nothing.

The lack of variation is disappointing, however. There are only so many things to do with a bunch of troops and a limited number of objectives, after all. Another problem is the way close-quarter combat is handled, making success a little too arbitrary at times. That said, the missions (and full campaign mode) provoke a tremendous desire to succeed, while the network games are a surefire way to lose friends and influence people.

Not quite the full-on deep space war experience, then. It's a little too limited and concerned with troops being in the right place at the right time for that. But Space Hulk is certainly up there as one of a new breed of hyper-slick games, where filmic scenes are par for the course, countless voice samples (all British, hurrah!) genuinely enhance the mood, and the action is peppered with a liberal helping of real strategy.

One thing's for sure - Sigourney wouldn't last five minutes. (MR)



ALIEN NATION

To find out more about the original Space Hulk role-playing game from Games Workshop, PC owners with Internet facilities should check out the Hulk homepage. Point your WWW browswer at: http://www.gamesworkshop.com/spacehulk/spacehulk.html

DEVELOPER **Key Game** PUBLISHER Electronic Arts CONTACT 01753 549442 PRICE £39.99 MINIMUM SYSTEM 486/33, 8Mb RAM, double speed CD drive, Windows 95, soundcard, joystick optional

Tense and occasionally shocking, Space Hulk has areas of excellence but is limited in REVIEW



IN YER FACE



Think you can cope with one of these buggers coming straight for you?



Can you think on your feet even when he's so close you feel his flesh-warmed breath.



And what do you do when he rattles your camera unit likes this? Think again.

Bargain of the Month

More fun than a Siberian mining simulator, Lode Runner gets re-released this month.

Lode Runner

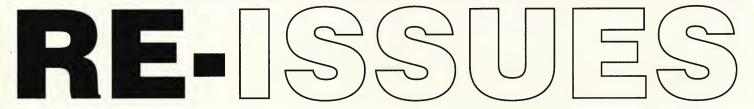
Sierra Originals £9.99

Get the treasure and run. Lode Runner's a platform leap from the past, when the plot could be written on the other side of the game instruction sheet. As Indy wannabe Jake, you run, climb and blast your way across treasure strewn levels avoiding

slime buckets, befuddlement gas and your enemies, the menacing mad monks. There are ten worlds to explore, each with fifteen levels, and when you've completed those you can create your own devilish realms with the level designer.

Guide Jake the Lode Runner through ten different underground worlds.





Clutch your pennies in your fist and join PC Review as we go hunting the best buys in budgetland.

Empire bolsters your bank balance



Shooting the space-station in Elite Plus brings a horde of Viper law enforcers (and your subsequent anniEmpire has announced a range of budget games, all on CD at £4.99. The range includes both single and double title disks. Topping the single title billing is Elite Plus. Pacific Islands, Shadow President, Empire Soccer, Campaign One and Campaign Two also jostle for recognition.

Magic Boy, with Cool Croc Twins and Volsied with Pipemania are the best of the double CDs. Others include Twilight 2000 with Space 1889 and Mega Traveller I & II.

hilation), just like in the old days.

Air Bucks Sierra Originals £9.99

It's 1946 and you've got \$100,000 and a

DC-3. From these humble beginnings are great airlines (hopefully) made. You have to negotiate landing sites, plan new routes, set prices for the various passenger classes on each flight, juggle with your marketing and, of course, buy ever more aircraft to keep up with demand. Statistics are provided for



Guide Leisure Suit Larry through his fifth smutty adventure. Sorry, what were we thinking? We mean 'Don't bother guiding Leisure Suit Larry through his...'

every plane in your fleet enabling you to work out what's going wrong.

You can try all manner of techniques to get people into your planes. You might try the Branson approach - innovation and excellence, top quality in-flight meals and radios, and a big promotional budget. Alternatively you go for the bargain bucket customers, the kind of people who either can't or won't pay for the luxury of a trip free of gunfire, farmyard animals and American tourists. It's down to you. There are no frills visually, but that doesn't harm what is, basically, a competent strategy game.

Leisure Suit Larry 5 Sierra Originals £9.99

Welcome, yet again, to the lecherous world of Leisure Suite Larry. This time you play two characters, Larry and Patti, with each role punctuated by dreams and sleep. The game is divided into various episodes, and you'll take in radio stations, porn shops, airports and even FBI laboratories on your way.

As usual, Larry's adventure is basically one long point-and-click drive down the sleaze strip. Some of the scenes are definitely in poor taste and, when coupled



A barren bar in Freddy Pharkas. Obviously the punters haven't yet heard they've been re-issued.

with the crass humour, you have to wonder who keeps buying these games? Definitely not sensible PC Review readers, that's for sure. They're much too well informed.

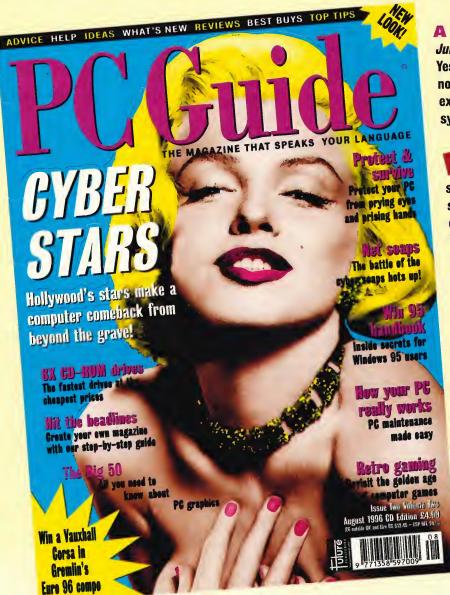
Freddy Pharkas - Frontier **Pharmacist**

Sierra Originals £9.99

This budget gag fest is from Al Lowe, the same comedian who spawned the endless Leisure Suit Larry series. This time you're in the Wild West as Freddy Pharkas, a failed gunslinger turned chemical dispenser. You might wish for an easier life now you've hung up your pistols but, of course, hope springs ephemeral. Aside from the puerile gags in every screen, you'll have to navigate some pretty taxing puzzles. Most of these involve manufacturing potent concoctions to cure your patients, which is where your Home Medical Advisor (1881 edition) will come in handy. An affinity for comedy routines involving sheep will also advance your cause.

If you like the kind of humour Freddy Pharkas slaps in your face, you'll be spending your tenner wisely. Beware though, you'll also have to fight against annoying sudden death and puzzles which sometimes require blind luck to solve. If subtler humour is your thing, however, the joke will be on you. (OB)

THIS MONTH IN PG GUIDE



A STAR IS DRAWN

Jurassic Park? How very 1994. Disney's Toy Story? Yesterday's news. The big thing in Hollywood right now is the digital actor. He's big, he's bad and he exists only on a hard drive. PC Guide meets the new synthespians.

SOAPS ON THE NET

Forget your thrice-weekly diet of TV

soaps. You can now get your soap fixes 24 hours a day courtesy of the World Wide Web. If you want to keep up with the goings-on in Coronation Street or EastEnders, then this is the place to be. Read our exclusive story.



BURN TIME!

CD-ROM writers are the latest 'must-have' desktop accessory. As prices

plummet,
everyone
wants to cut
their own
CDs. We review
the cheapest
drive yet!



ADOBE PHOTODELUXE

Now you can have your own digital darkroom on your desktop PC. Adobe's cut-price image manipulation package means your holiday snapshots can be transformed into works of art.

PC INSURANCE

Discover all you need to know about insuring your PC.

HIT THE HEADLINES

Create your own magazine with our in-depth tutorial and exclusive PageMaker 6.0 demo.



ON THE COUCH

If you're new to computers, there's no denying that PCs can be difficult beasts to master. That's why the *PC Guide* team of experts is on hand to solve your worst computer nightmares. Whatever your problem, we've got the answer!



Don't miss out on this month's GD-ROM.

We're giving away WinDelete 1.0 — the Windows
uninstaller that gets rid of all unwanted files. It's a
dream to use and it's yours for the price of the magazine.

Let's see, what's in our jungle mix of tips this month? There's C&C Covert Operations, Bad Mojo, more Civilization II, Absolute Zero, Crusader No Remorse, Psychic Detective, Alone in the Dark 3 and more, more, more. Yes, it's another essential line-up from PC Review's tipmeisters.

If you want to get ahead, get PC Review's extensive and thorough Play to Win tips section. Every month a winner.

Command and Conquer: Covert Operations (Not reviewed)

C&C is, as we're sure you already know, a brilliant game - that perfect mix of action and strategy. The one department that lets the side down however is the curious lack of cheats. There's lots and lots of tricks and strategies to adopt but no really pointless and stupid game alterations which are available at the push of a few magic keystrokes. Shame, that.

The good news is that this is something they've seen fit to change for the C&C Covert Operations mission disk. There is now a pointless and stupid cheat built into it which changes C&C into a bizarre Jurassic Park-inspired dinosaur hunt. To activate it change to your C&C directory. Type C&C FUNPARK then hit [Return]. That ought to do it. Have fun.



Alone in the Dark 3 (Reviewed PCR53, Score: 9)

It's been around a while but when this cheat recently came to light we just couldn't help passing it on. Alone in the Dark 3 can be a tricky game. Those cowboys can be terribly quick on the draw. This won't be a problem anymore if you follow the instructions below which will make Edward Carnby invincible and equip him with your choice of weapons.

First, play the game as normal and save your progress in save slot one. Now exit the game and type each of the following lines as the DOS prompt, pressing [Return] after each one.

NSAVE0.ITD

EAE64 00 40 For maximum health EB0CE 00 40 For the .38 special EB0C6 00 40 For the Winchester EB1C0 00 40 For the Gatling Gun EB16A 00 40 For the Shot Gun EAE7A 00 40 Return from the dead EB1EA 00 40 For the Colt a

Now resume your game and the cheats should take effect.

Civilization II (PCR 54 Score: 9)

Despite being a superbly programmed piece of software, a curious loophole has come to light in Civ II, one which you can use to great advantage. It concerns the fact that whenever you foolishly change your mind about which unit to build, you lose half of the shields you accumulated towards it. A painful and some would say unnecessary burden.

To chop and change units under construction as often as you like without picking up this penalty, set the choice of unit to Auto and let the advisor decide which unit to build, depending upon what type of unit you desire. Now switch Auto off and click Okay this without changing the unit. Wait a turn then you can change this unit under construction to whatever you fancy without any loss of shields.



Civilization II can be a tricky affair at the best of times. Need some help? Well this tip should lighten your load.

Absolute Zero

(Reviewed PCR53, Score: 6)

In order to review a game we here at PC Review play it continuously for days, putting it under the most rigorous testing known to man or beast. Occasionally, so that we may probe a game's later stages, we are told of a helpful shortcut so that we may access it without having to play through it. These are quite often taken out of the finished game. However, one or two still sneak in to the final product. Like this little gem, which apparently still resides within Absolute Zero.

From the main menu choose to start a new game. Now enter your name as Magazine Review, to let the game know that you aren't in fact a normal player but a games reviewer for one of the nation's finer PC magazines, like PC Review for example. Upon doing this all the names



We thought this was supposed to be a space-age shoot-'em-up? Looks more like a lorry park in Sunderland to us? of all the levels will appear allowing you to pick and choose which you would like to play.

Psychic Detective (Not reviewed)

Although a rather simple game, Psychic Detective can be quite good fun. And it's the only game we know where you can leave it running, visit the bookies, come back, make a cup of tea and return to find that you've completed the game. Oh! There are many endings available, only three of which are deemed as being correct... Here's how to achieve each of the proper endings.

1. When playing Black Diamond choose the four most powerful icons, which are Madame Tikunov, Monica, the Cigarette and any other icon

except the skull. Max will take the four remaining. Now attack Max's icons with yours, being careful to use your strongest against his weakest. Win here to get the 'grand slam' ending.

2. Ready for successful solution number two? Okay then, stick your brain into neutral and do the following. When Moki lets you use his Collector do so, but don't jump into anyone's head. Max will appear. Use the Read Max's Psyche icon and stay inside his head until you're killed. Laina will find you and at the mansion let her into your head to discover that Max killed Segei and not Vladimir, rewarding you with the 'healing' ending.

3. Escape your body in fail by jumping into Laina's head. Now jump into the kid on the skateboard and then into Sylvia when you pass her in the limo. Stay with her for the limo scene then return to your head. At Mirage Quest, touch Laina's bracelet then choose to seduce Sylvia. When you're in her



office select the seduce Sylvia icon again. Now, during the game of Black Diamond select Cigarette, Kite, Madame Tikunov and Sylvia to win the 'hothead' ending. May we apologise at this stage to anyone who hasn't played the game and doesn't know what the hell we are talking about.



Crusader: No Remorse

(Reviewed PCR50: Score 8)

When not buying furniture polish with which to buff up your red latex body suit you may find yourself purchasing weapons from Weasel, the black market gun merchant. He charges the earth for his guns and ammo but here's a way to save a few bob next time you're on the market for some dodgy firearms.

Buy your guns from Weasel as normal but save yourself a fortune, which you can invest in even more powerful weapons of destruction, by not buying any ammo for them. 'What good is that?' you may wonder. Well, unknown to Weasel he is in fact a distant relative of the famous bald TV

magician Paul Daniels and sells magic selfloading guns that can spirit ammo from out of the ether. To witness this magic for yourself simply begin a mission as normal and drop all of your new

> weapons. Now pick them back up again and they'll be fully loaded. Now that's magic.

This chap is scary for all the wrong reasons isn't he?

Bad Mojo

(Reviewed PCR55, Score: 8)

Life as a cockroach isn't as bad as it may seem. Unless of course you're having trouble with that fuse box.

It becomes apparent later in the game that you should have shorted it out and so, armed with the combination, must backtrack all the way through the game back to it. Alternatively you could just enter the correct code the



"Alright mate? Got a light? Cheers."

first time you come across it and thereby and save yourself an awful lot of hassle.

The first figure in the meter is always seven but you can alter the others by crawling backwards and forwards across the bottom three fuses. Change the meter until it reads 7-6-5-8. The fuse box will then spring into life then fizzle and then short out. Once this is done continue on your journey with the satisfaction of a job well done.



Franz Kafka has got a lot to answer for.

STORM

(PCR 56, Score: 3)

It's Electronic Arts' latest undersea adventure and it's... hmm... okay. STORM, incidentally, stands for Submersible Tactical Operational ammo-free Reconnaissance Module. Perhaps they should stick to wheeling out FIFA, PGA, NBA, NFL and NHL every year instead?

> Anyway, what if you're having difficulty playing STORM and need some help. Well, we've got just the



things. Here's how to get full power and full ammo whenever you like.

At the menu highlight the Start New Game prompt and type GIMMEPOWERNOW. If all has gone according to plan you should hear an explosion sound to let you know that the cheats are in place. If this is the case hit [Return] to start your game. Now every time you press [Q] you'll be rewarded with full power and every time you hit [I] you'll replenish your ammo supply. Good.



Mechwarrior II: Ghost **Bear Legacy**

(Not Reviewed)





More bloody Mechwarrior II codes? But no, what is this? These codes are not for Mechwarrior II but instead are designed for use with the Ghost Bear Legacy missions expansion package. That's alright then isn't it?

At present there are only two, but what a pair they are. To activate them you must first hold down [Ctrl], [Alt] and [Shift] together and then type:

CLARK which gives you rather handy X-ray vision.

KENT which makes you invulnerable to enemy attacks.

And another thing. Here's how to find the Easter Eggs (this makes sense if you've played the game, trust us). In the Ice Hall, click on the lights to the left of the screen. Next, in the Barracks, click on the poster to the right of the screen in front of the mission computer. And finally, go to the Drop Ship and click on the white computer screen to the right of the mission computer.

"As you might have guessed, Sid Meier's latest creation is pretty compelling. It's complex, absorbing, detailed, exciting, imaginative and utterly addictive.

Civilization II is a classic in every sense of the word." – PC Review issue 54, April 1996.

CIVILIZATION II

Last month we showed you the way to victory via the not so noble art of war. This month we complete our Civilisation II guide by explaining the infinitely more worthy scientific route to success.



Make love not war

This guide represents the second way of winning in Civ II. Last month we told you how to thrash your foes. This month we concentrate on the somehow more worthy route to scientific victory. The winner here is the first civilization to reach another galaxy. To achieve this you're going to have to equip your civilization with just about every scientific advancement there is before finally building the space ships that will enable you to colonise the stars. It's a long and arduous journey and you're going to have to work like a dog to gain the necessary technology to do it but it's persistence that will prevail.



ARMY SURPLUS

The rate of growth of your cities depends upon food output. In this more enlightened strategy you're aiming not only to feed your population but produce a little extra with each 20 year time period so as to feed an increased population. As this population increases achieving this surplus each turn will be much harder so keep looking at the city screen and moving your workers around trying to squeeze out that extra bit of output. Remember, the moment a unit has fulfilled its purpose you should disband it within the city to reclaim some shields and prevent it being an unnecessary strain on your resources.



From humble beginnings...

Much as it may stick in your throat to be nice to new, obviously inferior civilizations, you must do so. Let them help you, stealing all they have of any worth, then, at the last minute make a mad dash for the space race and beat them to it. It's going to take some time to beat them all in the race to space travel but if you follow a few simple rules it won't be such a problem. For your first steps we suggest that you follow the same instructions as last month's less enlightened approach to victory. Regardless of whichever route to victory you may choose the foundations of a successful civilization are the same.



SCIENTIFIC PROGRESS NEEDS A FIRM FOUNDATION.

Your goal at this early stage is to boost your city's food output. A good way of upping this and thus the rate of growth is to build a granary there, which effectively doubles the rate of growth. Or, if you're feeling more ambitious, have a stab at the Pyramid wonder. It can work, er, wonders. Food production can be greatly increased by irrigating the land around your cities, so it's well worth building an extra unit of settlers to do this. Use this settler unit as a kind of caretaker, irrigating the ground around all of your cities in order to boost food production.



CHOOSE YOUR SPOT WISELY

As before, you should set yourself up with a nice little set of cities. Remember to take the time to explore before founding your cities. There may be a more fruitful area close by and you'll only kick yourself later if you miss it, so have a good look around before you dig in. Coastal sites are excellent sources of natural resources as are sites near rivers. Watch for the presence of things like fish or mineral deposits. Remember that your ultimate goal is to produce enough food to feed a growing population whilst still producing enough shields and trade icons to further rapid scientific development.



Population okay? Now go for science.

Now you've got to boost your shield production. A good idea is to make full use of mines that are within your city's radius. Work towards the Industrialisation advance as this will be a great help at upping that output level even further. Develop more powerful power plants and dive headlong into the nuclear age at the earliest opportunity. Also, go for that important Manufacturing Plant improvement. Leonardo's Workshop is a vital addition and building the Hoover Dam and the King Richard's Crusade wonder are good too if you can spare the resources.



WILL YOU BE MY FRIEND?

Let's take a break from scientific development for a minute and remember that we're trying to get people to like you. Scientists are like that. Much as you might want to trample your opponents under foot, they will be far more useful on the scientific route if you're courteous with them. Take what you find useful then crush them the moment they've outlived their usefulness. In order to achieve this you'll require the co-operation of your opponents. Unfortunately, however, some neighbours won't give you the time of day. This is most likely due to their being in a more advantageous position. Other civilizations just love looking down their noses at you. If this happens just leave them alone. Never provoke another civilization into war. Instead give them whatever advancement they desire if this looks like it's going to avert bloodshed. Later on, when you're in a better position to speak to them as an equal, or if you have surpassed them in the technology race, you'll find they'll be much more accomodating. That's when you should make them reciprocate in a deal.



TIME FOR A NEW GOVERNMENT

So, there you are. You're working towards all sorts of useful and worthy scientific advancements instead of getting your hands dirty with the grime of war and having a thoroughly lovely time of it all. Perhaps you should work towards acquiring a more enlightened form of government to match your brainy, scientific and generally more benevolent demeanour. A definite improvement is the Monarchy, a great step up. The resultant greater tax revenue should have you gaining those city improvements in record time. The Monarchy, besides being a noteworthy tourist attraction, also benefits your trade income and the rate of growth of your cities and, provided you can get the luxury balance right and keep your population happy, will benefit your civilization enormously. In times of unrest remember that city improvements such as a Coliseum, Temple or Cathedral will help pacify your populace.



It's good to trade

Successful trade is the key to success here. Establish caravan routes to trade with other cities. Remember, you can have as many caravans as you like in operation simultaneously, provided, of course, that you can support them all. In this atmosphere of trade and prosperity you should act quickly to satisfy any market that may exist for any of the goods you can produce. Your allies' demands won't last forever. When setting up trade routes bear in mind that the further your caravans travel the more profitable the routes are. Best start building those ships as soon as you can so that your caravans can cross the seas to more distant civilizations and thus make even more money. Needless to say, the building of roads, and later the airport and highway, will boost your trading profits like nobody's business, making the supply of trade much quicker between your cities. After setting up links with other civilizations it's a good idea to use your diplomats to establish embassies within them so as stay in contact with your allies, enabling you to keep everything running smoothly and at the same time keep an eye on those less co-operative civs.



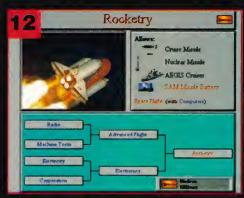
Down with the Monarchy, up the Republic

The next step up from the Monarchy is the Republic, which produces an extra trade unit for every location within the city radius that you already had one. This makes the Republic the ideal form of government for our purposes, producing plenty of tax income while offering the capability of producing plenty of science and trade goods. With the introduction of the Republic comes new responsibility to your people, and what a troublesome bunch they can prove to be. Now, the senate can over rule many of your more aggressive decisions, and will do so in an instant should you be foolish enough to make them. The republican senate aren't too keen on war so providing you stick to your peace-loving route to success they shouldn't give you any trouble. In this co-operative, trading, science based strategy this is definitely the best form of government to work under.



SECRET AGENTS, DO YOUR STUFF

Let's just say that no matter how nice you are, one of those rival civilizations just doesn't want to play ball. The chances are that the reason they're being so uppity is that they've got the upper hand on the technology front and don't want you to catch up. In cases like this, where you're in danger of falling behind in the technology race because you lack that important scientific advancement, there's only one thing for it - you've got to steal it. That's right. Civilization II is many things, and a training ground for industrial espoinage agents as well. To enable such dastardly deeds you've got to equip yourself with a spy unit then send it into an enemy's city to steal whatever advancement you require. It's great if you pull it off. Getting hold of advancements has never been so easy, but be warned, if your spies are discovered by the hostile civilization you're stealing from the chances are they'll declare war upon you in an instant. Of course, it's nice to get things for free, no matter your line of business. But heed our advice - only use spies if you think you can get away with it. A policy of constant spying will get you nicked.



REACH FOR THE STARS.

Remember that trade is still the key. Feel free to swap advancements with other civilizations if they have anything decent to offer. Through trade lies the road to scientific enlightenment. Once your civilization is up and running you should place as much emphasis on this successful trade as you can, working towards greater, more important scientific goals, and setting the science/luxury balance as close to science as you dare without risking rebellion. In order to reach some of the later scientific advancements it may appear that you are starting right at the beginning of the discovery tree. Don't worry, this is perfectly okay. The trick is to keep shunning military advancements. These will just waste your time and go for scientific and industrial advancements above all others. Stick at it and you'll reach the stars long before your more aggressive opponents. Well done - you've won again.

"Star Trek: Deep Space Nine – Harbinger casts you as a Federation diplomat assigned to assist in a first contact with a race from the Gamma Quadrant, a vast, unexplored region. The aliens, known as the Sythians, come from an advanced civilisation." – PCR 55, May 1996.

Deep Space Nine: Harbinger

So, just what is all this harbinger business all about. Let's see if we can find out what it means in our Deep Space Nine solution. Here's part one...

ight at the beginning of Deep Space Nine your runabout is attacked by aliens. At this early stage you have no idea that this is the case but you'll find out soon enough. Those Sythians are nothing but trouble.

After recovering your senses, Odo, the jug-eared shape-shifter, bubbles his way under the door and checks to see if you're okay. Have a quick chat with him. As you will soon discover, it doesn't really matter what you say to him. All the conversations in the game are carefully worded so that you will glean exactly what you are supposed to from them. For that reason we have not included which conversation options you should plump for in this guide, just ask each character what you feel like asking, it'll all work out fine in the end.

Get handy with the field

So, let's begin. Your first job is to fix the containment field before the cabin of the runabout is flooded with plasma. A tricky sounding task, but one which is easily accomplished. Spin round and move your cursor over the console behind you. This is the containment field control desk. When your cursor changes to the Starfleet logo



The first puzzle of the game. It might look tricky but it's dead easy. Just nudge those pieces of circuit board into place.

click there and get down to business. Your first job is to vent the plasma. Hit the button which will allow you to do so. The rest of this puzzle is pretty easy. Look at the damaged squares to the right of the screen and the intact ones to the right. Click on the one you want to make it appear in the circuit diagram on the right. Now click on the piece opposite to the direction in which you desire the new piece to travel. So, if you want it to slide left click on the on the piece to the right of it. The new piece always moves away from where you click. Keep nudging the circuit piece until it's over the matching damaged one. Repeat this for all three damaged pieces. That's it. Upon completion of



Odo is a curious chap. For a start he can turn into liquid and bubble his way under doors. Then there are those ears.

this task you'll be beamed to Ops where you can meet some of the crew.

Turn to face

The game employs a rather curious navigation method. Just turning to face the person you want to speak to in order to facilitate a conversation can be a task in itself. After speaking to Captain Sisko you must talk to Dax, the girl in the blue. After a short conversation you'll take part in the game's first action sequence. Shoot as many of the drones as you can. After this you'll resume your conversation with Dax, then you should turn your attentions to Sisko. Ask him nicely to turn on the turbo lift, enabling you to leave Ops.

Your task is to find and speak with Karig, who's in the habitat ring. Unfortunately the lifts to the habitat ring are out of order so you must travel to the lower promenade and continue on foot. Turn left out of the lift and look out for Odo's office on your right. Speak with him then continue along the promenade to a circular door, also on your right. This is the door through to



This is where it's all happening. Ops is always a hive of activity. Every time you visit there's a new lead to chase up.

the habitat ring. Go through and try to open Karig's door. It's locked. Return to Odo and he'll give you the code to disable the security system. Now return to Karig's quarters and go in. You'll find him slumped on the floor and Odo will appear. Talk with Odo then return to Ops and speak with Captain Sisko. Seems your mission now is to help Odo find Karig's killer. Speak to Dax again and she'll tell you about Karig's logs which need decoding. While she's preparing them return to the habitat ring, go through the cargo bay and find Farrow. Talk to him then return to Ops where Dax has the logs ready.

To decode the logs you must first translate the words of each colour bar by using the computer. Once you know what's what, place the bars in this order: Purple, Green, Yellow, Red, Blue, and then select play back. This curious action will give you access to the logs. Access 'Clarity' and speak with Dax again. Now return to the cargo bay and take part in a shoot-out.

After this poor old Ensign Yarrow will be attacked by a Red Lykotian.



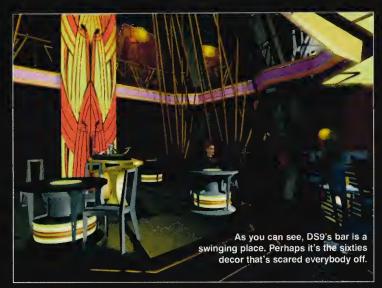
Let's face it. The action sequences of DS9 are nothing to write home about.

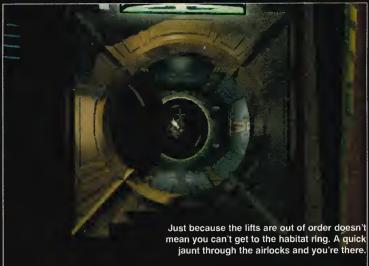


Run away! This lady wants to sell you a copy of the Watchtower.



This scaly gentleman seems innocent enough but is that happy-go-lucky expression hiding a dark, dank secret?





Shoot that nasty alien and get his refraction device before leaving. This will help you track down the Lykotians. One is in Karig's room, one's by the temple opposite Quark's bar, one is in the upper bar, one is in the habitat ring and the last one is in the airlock between the cargo bay and docking ring. Kill them all.

You'll now play through a simulated shooting session initiated by the Sythians, after which you embark on a shuttle mission. After the crash, make

probes in the maze, making your task a lot easier. Now head back into the maze and retrace your steps until you reach two doors. One has a green panel on it. Ignore this one, this is the one you came in from. Go through the other instead. There you will find the first generator. Approach it and activate it. Return to the doorway, from which you will be able to see the other side of the maze. Make your way across to the door that is directly opposite and go through. There you'll find generator number two. Again, approach and activate it. Now return to the centre of the maze and take the turbolift back to the power transfer room.

Click on them both to turn off the



Your generator starting exploits have worked wonders. All the panels you require now have power and are ready for your commands. Despite looking complicated the only part you're interested in is the centre of each panel. Locate the panel with the pink centre and click on it to activate it. This will trigger a strange pink arc in the centre of the control. Very nice. Now do the same thing with the yellow panels, blue panels, green panels and finally use the red panels, which are the ones you used to disable the probes. Once you've clicked both of them the control panel will short circuit. Don't worry, this is meant to happen as it has disabled the shields that prevent you from entering the last door in the maze.

Go back to the maze and head through that last door. You will find yourself in a room with three doors leading from it. The only one of any interest is the one to your left which leads to the communication room. Go through this door which, appropriately enough, features a symbol of a satellite dish on it, and make your way over to the other side where you'll find another panel. This is the comms control and

you can use it to speak to Odo. When you've finished yacking with the dry witted, authoritarian security man-blob, head back to the runabout.

Inside the runabout a new puzzle awaits behind a panel on your left. You must direct the coloured beams from top to bottom. Start with the blue supply line straight down until you come to the broken switch. Now just manoeuvre around it to the left and finish at the bottom. Do likewise with the red supply. Move the switches so that

the red beam is directed through the centre. With a spot of minor adjusting you'll be able to get the beam through to the other side. Next do the same with the white connection, directing all three beams through the centre and down to the bottom

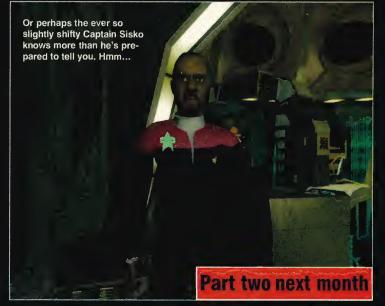
You're now halfway through the game. We'll return to help you get to the bottom of the fishy goings on aboard the DS9 in the final part of our guide next month. Until then, live long, and prosper.



Poor old Karig, as if the indignity of that green suit wasn't enough, someone's only gone and killed him.



The Sythians spacecraft wont leave DS9 alone. Surely they have something to do with Karig's death. Surely.





Even when alone in his own office Odo insists on standing bolt upright, totally motionless. He thinks it's cool.

sure you get the phaser from the cabinet at the back then enter the drone factory through the gap beneath the control panel. The maze has five doors leading from it. You came in one of them and must reach the other four. To make matters more complicated this must be done in the correct order as the probes in the maze will open fire upon you if you get it wrong. Firstly make your way to the centre of the maze. Save your game as often as you can be bothered to, as this will speed things up if you meet an untimely demise. Keep going towards the centre and you'll find the turbolift. Use this lift and it should take you to the power transfer room.

In this room you will find two panels, each bearing logos which look like the probes you met in the maze.



The follow up to the award-winning
Apache Longbow
"Simulation of the Year"

PC Gamer USA

he Hind is the most formidable frontline helicopter gunship in the Soviet military machine; uglier than a hunchback from Hell & meaner than Yeltsin with a hangover. Now you can fly the helicopter nicknamed "The Bogeyman" by NATO pilots, in campaigns across Afghanistan, Kazakhstan & Korea.

Fly head-to-head against the formidable Apache LongbowTM in the first link in DI's Virtual BattlefieldTM series. With realistic & arcade modes, highly detailed graphics, interactive ground troops, & riveting gameplay, playing $\mathsf{Hind}^{\mathsf{TM}}$ is probably the most exciting pastime since Russian Roulette.







Already intertwined with areas of PC computing such as VR, artificial intelligence and the Internet, artificial life is a field likely to see massive development over the next five years. In fact, it might even change the way we use our PCs for good. Over the next six pages we investigate Alife in depth, talk to the experts and give you a sneak peek at Creatures, one the most advanced pieces of artificial life software ever. Here's our special report by Garrick Webster.

Meet our cover girl

Kyoto Date, or DK-96, is Japan's virtual pop star. She's 16 years old, has blood type A, and lives with her parents and younger sister. Her interests include learning foreign languages, photography and collecting trainers. Her profession is Computer Graphic actress and she appears in TV commercials in Japan.

The creation of Hori Productions, Kyoto might eventually interact with people in real time. While she isn't an artificial life form, one day we could see virtual beings like her. We might communicate intelligently with them, play games against them and even buy their pop records. For more information see http://tky063.tth.expo96.ad.jp/virtualidol/index.html



Kyoto Date in a moment of repose while modelling her virtual clothes.

ARTIFICIAL





The people of Theme Park have a rule-based intelligence: they don't learn from their errors.



Watch evolution at work in screensavers such as Primordial Life ~ on CD Review.

Getting Alife

As organic species gradually become extinct, an ever increasing number of artificial life forms move into our PCs. From viruses to interacting flocks of virtual birds, we investigate.

rganic life is under threat. If the doomsayers are to be believed, the misuse of technology over the past few centuries could result in the destruction of our planet, and the death of all species on it. Paradoxically, our computers, sometimes seen as the ultimate symbol of over-industrialisation, are becoming a major key to understanding how life on earth works. As threats to survival grow around us, artificial life is establishing itself within our PCs and, besides perhaps helping to save the planet, it is poised to revolutionise computer entertainment.

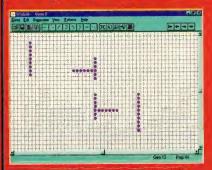
As a field of study, artificial life - or Alife was founded by Chris Langton, director of

the Artificial Life Program at the Santa Fe Institute, a key centre of study in field. For him, the idea of Alife is to study natural life by synthesising life forms using computers. What excites scientists like him is that by doing so you can expand the field of biology from the study of life as it is, to life as it could be. What excites us, however, is the impact Alife is having on PC computing. It is already affecting areas like artificial intelligence, organic art, the internet, virtual reality, robotics and viruses.

As some form of intelligence is a characteristic of most animals, anyone simulating advanced life forms will try to give them ways of making decisions and learning.

This graphic represents the Tierra project, which could turn cyberspace into the home of millions of data worms – artificial creatures which live off unused computational power.

Playing WinLife



Cells are placed on the grid by left clicking with the mouse pointer. You can zoom in, hide the grid and manipulate selected cell patterns by cutting and pasting using the buttons in the middle at the top. When you've laid some cells, hit the button at the top right to see a pattern evolve. If you wish to remove cells, just right click on them with the pointer.

WEB SITES TO SEE

entertainment An essay on developing

entertaining

cacm95.html

Artificial Life meets

autonomous agents.

media.mit.edu/people/

pattie/CACM-95/alife-

http://pattie.www.

Artificial life - an expert talks

We questioned Alife supremo Dr David Cliff. We asked him exactly what his field of study is all about, why it's so much more interesting than artificial intelligence and, above all, why it's important to home PC users...

asically, artificial life is the science of trying to create living things which aren't necessarily made out of flesh and blood." says Dr Cliff.

"Artificial intelligence work has gone into developing computer programs for specific functions - for things like learning to play chess, or being able to think up new tactics in a wargame. So you come up with a program that is very, very good at one thing, and not very good at anything else. The significant development in artificial life is the creation of artificial creatures which happen to be able to survive in some kind of environment - a software environment. They're entirely responsible for doing everything. They have to feed themselves and protect themselves from danger, not bump into things and not get lost. Artificial life forms need a complete set of survival skills and they don't necessarily need to be very clever,



although they can often learn over the course of a lifetime, or they can evolve over a number of generations to be better.

"I think that it's probably the case that the most significant application over the next five years in home PCs will be in entertainment software. I think also, perhaps in roughly five or ten years, having some kind of artificial-life-inspired autonomous agents that can do the work for you on the Internet would also be a realistic possibility.

"The costs of building robots are unlikely to fall over the next five years. In maybe 20 or 30 years it may be reasonable to talk about intelligent home appliances, such as, say, a vacuum cleaner which can steer itself. But that's a really long way off, as building robots is still a tricky task and very expensive. There are a lot of problems with robot hardware that you don't have to face when you're dealing with software agents in some kind of virtual reality or software environment."

David Cliff is Lecturer in Computer Science and Artificial Intelligence at the University of Sussex. He has worked in Alife for eight years, creating computational models of the nervous systems of insects, developing neural networks to control robots and adapting Alife software for entertainment purposes.

Most games boast some form of artificial intelligence. Usually, it's nothing more than a set of laws. If you can't go straight, turn left. If you can't turn left, turn right, and so on.

Even in relatively complex games, most characters with AI are simply following a set sequence of rules. In *Theme Park*, for instance, the little people certainly resemble real people in their requirements. They eat, drink and go to the toilet. They want to have fun on rides, but if they imbibe beforehand, they're sick. But while they're smart enough to look for things they like, they never learn, the relationship between eating ice cream, going on the whirling waltzer and vomiting.

Behaviour governed by rules is fine for most games, but it's not really intelligence at all, and any creature following such brittle patterns would soon die out. Instead, the

pioneers of Alife today prefer to use a superior form of Ali neural networks.

Give it some thought

Inspired by the way a brain works, a neural network consists of a large number of interconnected processing units. Inputs are recorded in these 'neurons' and linked to outputs. By storing inputs and relating them to the outcomes of its actions – both successful and unsuccessful – the neural network learns by accumulating connections and adjusting its behaviour accordingly.

The ultimate test of AI is for it to interact with a human without that person actually reallsing he or she is dealing with an artificially intelligent entity. There are already programs, like *Chatterbots* in multi-user dungeons (MUDs) for instance, which can

for long periods remain Indistinguishable from human players.

In truth, the laws of behaviour for most game characters are more like instincts than intelligence. Hence, games like *Trophy Bass* and other fishing sims might still be called Alife systems. After all, fish have short memories and react to their environment without apparently learning anything. Likewise, where the fish in *Trophy Bass* swim depends on the light, water temperature, season, and what they'll bite at is determined by their feeding habits.

Motivation by realistic instincts is one step towards an Alife system. The next might be a game with fish that really interact with their environments – fish that eat things other than your lures, and which mate, fight, swim in schools and generally get on with it in

Boids
Find out all about this
simulation of flock,
school and herd
movement.

movement. http://reality.sgi. com/employees/craig/ boids.litml

The Live Artificial Life Page Observe Alife Java applets working in real time over the Internet. http://www.fusebox.com/cb/alife.litml

Primordial Life 3.0 Download this fantastic Alife screensaver from this site. http://www.io.com/ ~spofford/prim3o.html

Technosphere
Take part in an Alife
experiment on the Net.
http://194.80.30.14/technosphere/index.html

Tierra Home Page
The Tierra Project,
which proposes to
spread living data
worms around the
Internet, is described
by its makers. Win95
Tierra software should
soon be available
from this site.
http://www.hip.atr.co.jp
/~ray/tierra/tierra.html

What is an Artificial Neural Network? Find out liere. lttp://www.emsl.pnl.go v:2080/docs/cie/neural/ neural.ann.html

What is
Evolutionary Art?
Download popular
organic art shareware
including FORM.
http://www.tag.co.uk/sn
affle/form/evolutio.litm

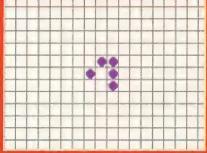
Zooland

The best Alife resource on the Net. Links to places to download WinLife and Boids software. http://alife.santafe.edu: 80/~joke/zooland/

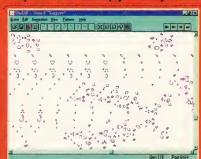
You can have a lot of fun with this Game of Life for Windows written by John Harper. The rules are simple. A lone cell will die, as will a cell touching just one or three other cells. A cell touching two other cells, however, will reproduce on its empty side. Try it out.



Have some fun by making a pattern constituted by your initials. You'll be surprised what you'll come up with. Our editor's initials, J A B, for instance, bred for some 4,000 generations. There's a population and generation counter to the bottom right of the grid. Most people's initials tend to last for about 600 generations, depending on how elaborately they make the letters.



Of course, the game element is to try and design a pattern of cells which is infinitely self-replicating. One of the simplest patterns to this end is the one you see above. Try it out and this little shape will go wiggling off in the direction it's pointing in. A message may pop up telling you that its shape is the same as that of a previous generation, but essentially this pattern will go on for ever.



Now let's have a look at someone else's self-replicating pattern. Go to Open on the File menu and load up the file LOGROW.LIF. Hit the play button and see what happens. It's even more impressive if you zoom out. Can you make one like this? Numerous .LIF files have been provided for you to experiment with. See if you can pick up some more infinity patterns from them.

THE DADDIES OF ALIFE



Sometimes mistaken for Fabio, Chris Langton invented the term 'artificial life' and is head of the Swarm Project at the Sante Fe Institute, one of the leading centres of Alife study.



Tom Ray is a biologist devoted to saving the Costa Rican rain forest. He got into Alife and taught himself programming for the express purpose of sceing evolution happen on his computer. His main project is called Tierra and involves data worms on the Net.



Richard Dawkins
has influenced work
on evolutionary
algorithms and is a
major Darwinist
theorist. He is Lecturer
in Zoology at Oxford
University and author
of books such as the
Blind Watchmaker and
the Selfish Gene.

Breeding forms with FORM

FORM is a piece of organic art software, written by Andrew Rowbottom, that actually breeds and mutates shapes.



Run FORM and using the file menu open the file ANONITE2.FRM. It should be in the Others directory, which itself is in the file directory. Change the screen size to 640 x 480 in General Settings, which is under the File menu, and then click on Go! After 15 seconds or so you should see the above.



Now select Mutation Settings from the File menu and choose the 3 x 3 layout. Make the Mutation Factor 2 and the Steering Factor 0.5. Click on MutateMode! at the top of the screen and hit Go! After a few minutes rendering you should see something like this. Now try Mutation Factor 5 for something wild.



Click on the offspring you like the best and want to breed from. Hit Go! again and you'll produce another generation based on your choice of parent. Diddle the Mutation Settings all you like. Now try loading some of the other FRM files. You are the mutator!

▶ the lake ecosystem. This raises three other interesting areas of Alife – procreation, group movement and virtual environments.

The need to breed

Just as reproduction is a key to biological life, it's something to look for in Alife too. Some of the earliest Alife systems were based on making organisms that could multiply by themselves. One well known example is the *Game of Life*, invented in the 70s by John Conway. Also called a cellular automata, the game consists basically of putting cells on to a grid. These cells breed by simple laws, so by setting the correct pattern of cells you can create an infinitely breeding population, and an unexpected pattern across your screen. (See *WinLife*.)

The environment Life cells live in is, of course, extremely simple. It merely gives the creatures a reason to live or dle. Some more complex Alife systems, however, aim to simulate a proper biosphere. In games like SimLife, for instance, life forms depend on one another to procreate, but also rely on the right climates and terrains. In the case of animals, they must find the right food

usually they consume other species – and overcome obstacles such as mountains, lakes and rivers

This is where virtual reality comes into it. In SimLife, the virtual environment is quite complex. In the future, however, the arenas of Alife will be far more impressive and extensive. We'll soon be able to get 3D virtual fish tanks, and even things as ambitious as fully immersive virtual game reserves or – shudder – virtual hunting expeditions.

The animals in *SimLife*, unfortunately, wouldn't quite fit into such a grand scheme. The main problem is that – despite following a large number of behavioural rules – like the fish in *Trophy Bass* they're only partly like animals in the real world. For a start, they don't appear to live socially. They breed and compete for food, but they don't display any sort of flock, herd or school behaviour.

Serious Alife developers, however, have long been creating software that can replicate the way in which herds, schools and flocks move. The Swarm project, also headed by Chris Langton, is one multi-agent system simulation, and another is Boids.

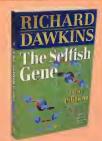
Both simulate groups of interacting individual creatures.

Competent virtual reality biospheres with realistically moving and breeding creatures may benefit PC entertainment. But they aren't always the first things on the agenda for those who treat Alife as a serious science. What they want to do is observe evolution in action. The beauty of Alife for them is that using computers they don't have to wait aeons to see it happen

Mutate to live

Lots of Alife study to this end has used evolutionary algorithms. Using them, the genetic development of a population can be simulated with parameters for natural selection, mutation and adaptation over hundreds or thousands of generations. Within the algorithm are survival criteria, and those determined to be good competitors contribute their (more successful) attributes to the next generation. With the possibility of mutation, some of those in the next generation might be altered slightly—for better or worse—but compete again to create diversity in further generations. This

Alife enthusiasts take note



Richard Dawkins' book, the Selfish Gene, has inspired numerous Alife programmers. Another Dawkins book, the Blind Watchmaker, includes an chapter on Alife. £8.99, OUP.



Evolutionary Art and Computers by the organic artist William Latham and mathematician Stephen Todd. It explains their patented Mutator software. £29.95, Academic Press.



Log on to Technosphere and take part in a real-time Alife experiment on the Net. Design a creature and set it loose in a virtual environment. It will e-mail you when it breeds or dies.



Little Computer People, a classic from the days of the Spectrum and C64. You are God to tiny simulated people. Available in Activision's C64 15 Pack. £15.99 from Activision, 0181 742 9400.



In SimLife you place plants and animals in a virtual environment and try to build a working ecosystem. Dated but still a great game.

sounds quite complex, but most of us have already seen genetic algorithms in action, in programs like *Organic Art* by William Latham. Here, the colour, shape and pattern of the forms are contained in an algorithm. With some software you can even cross-breed the shapes, choosing the offspring you wish to go ahead to make new generations. (See the *Form* box on page 68) Organic or evolutionary art in itself, though, isn't Alife. Instead of simulated natural selection, the artist's taste decides which forms survive to breed.

Worms on the digital frontier

The alternative to putting all the genetic information into algorithms covering whole populations, is to simulate individual creatures, each with its own genes and survival needs. If they're released to interact in a community and there's a certain possibility of mutation between generations, you can then observe evolution in progress.

Just such an Alife system is currently being tested in an experiment called the Tierra project. Instead of living in a virtual environment with food, terrains, climates and so on — like in SimLife — computers

Exclusive Alife news from William Latham

PC Review can reveal that William Latham's company, Computer Artworks, is working on an Alife game. With a 3D virtual environ-



ment, part of the game will be based on Latham's Mutator software.

"I can't say too much," Latham told us, "but it will have the unique,

bizarre, surreal look to it. It's not like we're doing a Millennium and putting little funny Sonic characters in there or anything like that. It will have an

moving on from the organic art to make a full-on 3d artificial life gam Needless to say, we can't wait. original look and feel to it, and will incorporate all the obvious techniques we're associated with, such as Mutator, plus a whole load of other stuff which we've done in the past but hasn't been so publicly seen – stuff included in the book Evolutionary Art and Computers.

Strategically we want to be seen to be within the artificial life game community."

The game will have the same aesthetic feel to it as Latham's artwork and will be published by BMG Interactive. Meanwhile, you can pick up Computer Artworks' *Organic Art* screensaver, which scored a 9/10 in issue 55. A professional version of this software will be released soon.

themselves form the environment. And the creatures are not like anything we know in a the real world, they are strings of code which govern individual behaviour and reproductive capability. To live and reproduce, each digital worm requires only computational cycles.

Currently, these worms only exist when Tierra software Is running. This provides them with their environment, within which they can seek out unused processing power to replicate themselves. If other software is running, the worms get less sustenance, but if Tierra is running over a network or on the Internet, the worms can seek a free flow of cycles. So, while we all use our PCs during the day, the creatures would go to California and Japan, and when the sun comes up on Venice Beach, they'd flee back to Europe.

With the possibility of mutation built into their genetic codes, there is the chance that various strains of these worms could adapt to different conditions. Soon, *Tierra* software for Windows 95 is to be released so the experiment can be spread across the Net One main worry, however, is that these worms will eventually clog up all the world's systems, or even evolve to the extent that

they don't die when they should. The other worry is that they might carry with them another form of artificial life: viruses. But, unlike Tierra's creatures, viruses live off software. They infect it and corrupt code in order to reproduce themselves. There are already a number of viruses out there programmed to adapt themselves, thereby overcoming the new virus software as quickly as they can replicate.

There is, of course, a practical upside to this. What if, for Instance, you could combine Tlerra's worms which seek out unused processing power, with a neural network that can learn your personal interests. You could then send your own intelligent agent out on to the Net to find new information relevant to your professional or personal needs. Turn the page to find out more.

Whatever the ups and downs Alife presents us with, one thing is pretty much certain. You're going to be seeing artificial life being applied a great deal more in PC applications over the next few years. And who knows? Soon you might be buying records by Alife pop stars looking something like our cover star, Kyoto Date. (GW)

Boids



This computer model of group behaviour was developed by a man called Craig Reynolds. Not only has it inspired numerous shareware Alife projects, but it has been used as the basis of photorealistic animations in several Hollywood films. the flocks of bats in Batman Returns and Cliffhanger were both based on the Boids model, as was the heard of stampeding wildebeest in Disney's Lion King.

The Boids program on CD Review this month was written by Jürgen Schmitz, but is really the offspring of Reynolds' original work. Using it you can play with the flight patterns of three different flocks of birds. You can set how closely they stick together, how much they tolerate the other boids and how many of them there are.

Here's a selection of Alife and Alife-like software you can expect over the coming months.



Citizens enables you to control the lives of 16 people in a virtual town environment. Raise and lower motivations like hunger, sloth and lust to manipulate them. Released in October.



Theme Hospital from Bullfrog follows up the fabulous Theme Park. As hospital administrator you oversee the curing of the ill. Incredibly complex Al systems. Due out in November.



The Evolution of Life. This is the infotainment road to artificial life knowledge. The CD is about Richard Dawkins' theories on evolution and genetics. Watch for our review next month.



Creatures could be the most advanced form of artificial life yet released. And guess what, we've got an exclusive review starting on page 70. Turn the page for more details.

CD REVIEW

There's a star Alife bundle on our CD-ROM for you to try out. It includes Boids, WinLife, Form, Citizens, Primordial Life and Trophy Bass.

ARTIFICIAL PA

On top of a fun Alife product, Millennium plans to use its CyberLife technology for numerous purposes. On the way is a Windows 95 personal assistant that watches you and learns what you're interested in. Its understanding of your needs and interests form the basis of its motivational system - you can develop it through reinforcing its good ideas and punishing its bad ones. This PA should also be able to forage for information for you on the Internet, seeking out your favourite sports news, giving you business updates and so on. "It's almost like a pet dog that gets patted on the head for bringing back the piece of wood you throw out there. So it finds other bits of wood and thinks: 'I might get patted for it," says Millennium Interactive's CyberLife director,

Anil Malhotra.

The science of Creatures

Creatures features oodles of options for you to diddle with. Here are some of the complexities you'il have to contend with



is the place to store potential offspring. You can even store eggs on disk if you want.



The Health Kit is what you turn to when you want to check your creature's temperature, see how its brain is functioning and so on.

You can play God with your little pets by meddling with their genes. You might make yourself a supremely stupid one, or you could make



uber-creature. Scary. And you don't even have to be a qualified genetic engineer.

Greature.

Despite its high cutey-pie factor, Creatures is all set to become the most advanced Alife software ever to appear on a Windows desktop...

hat would the perfect artificial life application for the PC have in it? Well, if you've read the previous few pages, you'll probably have a good idea. For starters, it would include an accurately simulated life form capable of making decisions, and learning and behaving in a life-like way. That organism would probably live in an elaborate virtual environment and capable of passing its genes to future generations by reproducing. It would, in short, be just like a real creature.

Believe it or not, Millennium Interactive has come up with just such a system. It's

aptly-named Creatures, and it should be available in September.

Basically, Creatures makes you the owner of a vivarium measuring three screens high by 12 wide. This vivarium environment provides a home for up to a dozen cuddly little critters. Caring for these creatures, you're able to feed them, teach them to look after themselves, chastise them, give them toys and even breed them. And although these big-eyed cuties might look like furry the most sophisticated pieces of Alife softdone with an artificial life organism Is take a

whole load of ideas from the neural network Malhotra, Director of Millennium's CyberLife project. "But what we additionally need is some sort of system that keeps pumping away and from time to time causes the brain to interact and make a decision.

The neural network brains of the creatures are motivated to act by a highly detailed biochemical system. "In Creatures we have a virtual blood stream, we have a virtual endocrinal system, we've got painincreasing hormones, we've got testosterone so our creatures actually have a motivation to breed in exactly the same way you and I



One toy is the ball. This will release endorphins into the bloodstream of the creature and he will remember the effect. This is a good thing.



The killer Grendel entities form one sort of natural selection in the Creatures environment. They can kill your creatures



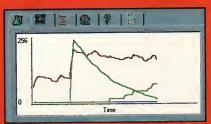
Meet Anil Malhotra, Creature creator and Director of CyberLife at Millennium.

ALIFE V AI
What makes Alife so
compelling compared
to traditional AI is that



You'li find virtual pet cemeteries on the Web, and Creatures has its own digital shrine. When one of your little flock passes away, you can bury it

in the hallowed Creatures graveyard and visit your loved one regularly.



In the Science Kit you can check on things like the level of comfort. This one's had a sharp influx of pain-Increasing hormones.



The Science Kit includes a monitor of brain activity. You can see where the motivations are arriving in your creature's head.

do. We've got adrenaline in there, we've got all the biochemical enzymes needed to impute that you're hungry etcetera, etcetera. There are actually 250 genetically-specified internal chemicals," continues Anil.

With their little bloodstreams cycling all this internal information through the neural network about ten times a second, the creatures in Creatures have plenty of motivations to govern their behaviour. Using their external sensory organs, they can act on their most intense impulses. So, initially, when they're hungry they'll put things in their mouths to see if it's food. And when they're cold, they'll move towards fire, often burning themselves at first by getting too close. As being burned triggers a sharp release of pain increasing hormones, their neural network brains will remember the experience and not repeat it. Likewise, when the creature finds food and absorbs glucose into its blood stream, the brain remembers. Gradually, the

At a certain stage in the life of each creature, its reproductive system will come into action and it will seek a mate. This is when all the interesting genetic stuff starts to happen. "We wanted these things to breed because if you are copying biology, that

when all the interesting genetic stuff starts to happen. "We wanted these things to breed because if you are copying biology, that

The virtual vivarium in Creatures includes a cablecar system for them to use as transport.



A creature hatches from his egg. A fridge of food and a fire are near. Good luck, little fella.

happens. And when they breed we wanted their offspring to have the capability of having a unique set of genetic characteristics. So, what we did was we created this quite complex software which created a simple but authentic model of DNA which we call Digital DNA. When the creatures breed, a daughter genome gets created and random characteristics from each parent are selected and placed on the daughter genome. Those things that are deemed to be instinctive tend to automatically get inherited, but all the things get inherited randomly," says Anil Malhotra.

Like father, like son

Not only does the breeding process allow for inheritance of traits from parents, it has built-in variations. When genes are cut, errors can occur and the corresponding genes on daughter genomes missed out or duplicated. If duplicated, the second copy could give rise to new traits in future generations. There is also an arbitrary possibility of mutation. Future generations of creatures, therefore, could be very different from their parents. New species might even evolve.

"Suddenly you get real biodiversity introduced into these creatures through the

generations," explains Anil. "And the reasons some of the artificial life scientists are interested in the product is that, as one of them put to me once, real evolution has only ever happened once and we're, roughly speaking, the most sophisticated outcome so far. With potentially thousands of users in the world, breeding over time tens or hundreds of thousands of generations, it might be possible to detect how and for what reasons particular diversifications in genetic code can take place."

Should creature owners choose to breed and exchange the data via the Net, we could well see a huge evolution experiment taking place. Of course, most of us will just treat our creatures as pets rather than some kind of lab experiment. Proper care of the little critters pretty much demands that you treat them as individuals.

And, of course, we'll have to deal with their deaths. Creatures have a lifespan of about 40 hours. But there are things that kill them. There are dangerous objects, such as poison. Then there are actively belligerent agents, called Grendels. If the creatures fail to give these beasties a wide birth, they'll get killed. Even in their cute environment natural selection is at work. (GW)

with it, computer generated beings will behave in a much more lifelike, compelling and entertaining way. According to Anil Malhotra: "With a traditional AI, it's what we call a top-down approach. In other words, we try to specify a total solution in advance, put all that information a priori into the brain and help it learn as it goes along. With an artificial life system, you don't actually give it any a priori knowledge. What you do is you create a system that is good for learning on its own an autonomous or self governing system. Creatures is one of the very first systems of computer software with a totally self-governing, self learning autonomous system. There are instincts, there's a little bit of knowledge, but fundamentally there's very little knowhow about the world it lives in. But there is an excellent system for learning as it goes along."

Another Alife title in the pipes from Millennium is called the Sucker, Resembling Little Computer People, perhaps, it gives you an artificial friend whose main motivation is to be your friend. You, however, can treat him as badly as you want. So, if the stress is getting to you, you can whack him on the head with a club. Or you could give him a pot of honey then release a swarm of bees in his direction. But because he's an Alife character, he will gradually grow to distrust you. And if you're sadistically mean to him, he'll end up hiding away in some corner of his apartment.



If your little creature drinks from the still, he could very well get drunk. Wonder if this will affect the long term memory of his neural network?

Next Month We'll have the exclu-

sive demo and review of Creatures.

PG PIUS

On sale: Monday 1 July



- The fastest PCs ever, with 200MHz Pentium engines, tear around the PC Plus race track. Which is first past the flag?
- High-speed, low-cost modems, with 28,800bps from £119. 10 of the best on test
- Windows 95 comms software
- Fractal Design Painter 4
- Flatbed scanners TP LaserJet 5

On the SuperCD:

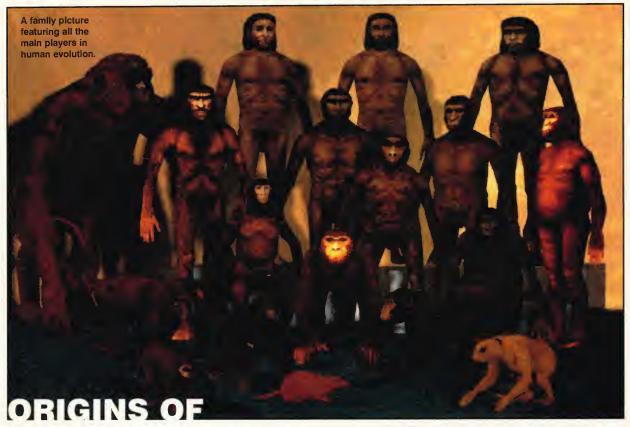
EXCLUSIVE DesignCAD

3D Special Edition

Create, save and print your own 3D models with this great software.
Versions for Windows 3.x

and Windows 95





You'll have no idea just how scary your extended family really is until you look at this compelling CD-ROM.

hen grandads advise us to know our roots, this isn't quite what they mean. Our wisest relatives may be able to tell us the maiden names and birth places of our great-grandmothers, and maybe even our great-greats, but they're not likely to take you aside and trace the family tree back 70 million years to the

times of Purgatorius, our earliest known mammalian ancestor.

Origins of Mankind is the CD-ROM to do this. And while it won't tell you anything about your great-grandmothers, it does contain plenty of fascinating information all about our prehistoric ancestors, from the Purgatorius, a 150g insectivore

In the Mission section you can follow the excavation of an old Neanderthal cave. They had fire and tools, and burled their dead.

contemporary of the last dinosaurs, all the way up to Homo sapiens sapiens, who first appeared about 90,000 years ago.

There's a great deal more to it than dates, weights and funny Latin-esque names, too. *Origins of Mankind* is an easily navigable disc, with some interesting and effective features. Its main interface is standard multimedia fare – a desktop littered with objects which take you off to the disc's nine sections.

Among them is the Palaeontological Discoveries chapter. Here you're given a map of the world and asked to specify on which continent your quest for evolutionary information should begin. Africa and Europe offer the most palaeontological finds, but to get away from the beaten path you can try South America. Choose a continent and a



The time spiral is little more than a twisted timeline. It shows the gaps between developments, but is far from interactive.

MULTI-MEDIA



History, both recorded and unrecorded, seems to be the prevailing theme in multimedia for August. To begin with, fittingly, we take you to the very beginnings of humanity with the Origins of Mankind, which starts on this page. It's a fantastic look at the evolution of our species going back some 70 million years. Sadly, aside from the story of life, we take a look at inhumanity and death with Yellow Star, a multimedia disc about why we shouldn't forget the Holocaust. That's on page

On a ligheter note, however, there's Myths and Legends II which, putting an apocraphal slant to our historical theme, looks at long lost sites like Atlantis and the Tower of Babel. Page 78 for that, while for a dose of natural history see Perfect Plants on 77.

Finally, for something of a history of the extremes and superlatives, all you need to see is the Guinness Multimedia Disc of Records. Wild.

Garrick Webster gwebster@futurenet.co.uk

Contents

Origins of Mankind 73

Great Cities Europe

Perfect Plants

.-1--

Myths and Legends

Volume II 78

Yellow Star 79

Guinness Multimedia
Disc of Records 80

Meet brother Habilis

The first Homo habills skull was discovered by the Leakeys in Kenya in 1963. Flint Implements found nearby Indicate he used tools. He walked upright, couldn't run and may have spent some time in the trees.



The Ancestors and Cousins screen enables us to compare the face of Homo habilis to that of modern man. We learn that habilis grew to 5'1", weighing in at around 111lbs. Skulls and skeletons can be compared.



The environment details on Homo habilis show he shared the African planes with another upright primate, the Paranthropus boisei. Here we learn that habilis could build his own shelters, but used natural ones too.



In the Roads to Evolution section. we see our relative in the lineage of human primates. He lived in the Pliocene era, more than 1.6 million years ago. The animation on the left takes us to our other relatives.



According to Origins of Mankind, Homo habilis was the first human - or the first species

Another fact-filled screen shows the classification of this species, its range in East Africa and a sketch of It. We're also told that this ancient beast had a brain one third the size of our own, and ate a diet that included meat.



Finally, we can morph the form of Homo habilis into that of our own - over a million years of evolution in a few seconds. Too bad the tiny animation is blurry. We aren't told anything about how the adaptations occurred.

PCR QUIZ

Know your roots

Can you put these skulls, which are all part of our lineage, into the correct evolutionary order?

- 1. Homo habilis
- 2. Purgatorius unio
- 3. Kenyapithecus africanus
- 4. Homo erectus
- 5. Aegyptopithecus zeuxis

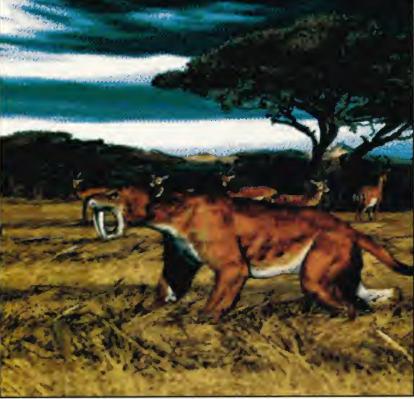












From the Environment screen you can find out about other extinct animals. This big cat hunted the African plains inhabited by Australopithecus afarensis.



Clicking on the timeline buttons across the top of the screen will call up a quick discussion of the geographic and climatic features of the planet for any era.

scrap-book-style multimedia presentation kicks off. Photos of the La Salle mountains in Bolivia appear and dialogue between a man and woman erupts: "These mountains are awesome, aren't they," says the man.

"If you say so," she responds. "Are there any fossils in them?"

"Sure. A Frenchman called Hoffsteader prospected them in 1967. That mandible fragment was given to him by Professor Branisa from La Paz." Pictures of a toothy jaw fragment appear.

"So it wasn't even Hoffsteader who found it?" she asks.

"True, but he was the one who studied it. He demonstrated that it was the oldest primate in South America. He named it Branisella boliviana."

The first tool-using humans

This presentation style is typical of the Palaeontological Discoveries section. The use of dialogue rather than a single narrator is in theory an excellent idea, adding life to the presentation, but most you'll find the lack of in-depth detail is slightly disappointing. For example, you can't study any of the pictures up close, and there's no interactivity. Surprisingly, even the work of the Leakeys, who found remains of the first tool-using humans, Homo habilis, is pretty much skimmed over. The debates which



The essential glossary isn't hyperlinked to the rest of the disc, making it difficult to use.

surrounded the Leakey finds are never even broached. A disappointing oversight.

Sticking with our South American cousin, however, more on Branisella is found by clicking the link to the Roads of Evolution chapter, in which an interactive diagram demonstrates the branches along which our ancestors evolved. Branisella appears in the oligocene era, about 28 million years ago, and a screen on this little monkey is another click away. It had 36 teeth, weighed 1kg, and is thought to have migrated to South America, moving island to island across the Atlantic when the ocean was much narrower. A map highlights its range in central South America and a sketch shows a grey-brown tree monkey. Using the road to evolution diagram, we can go back to Branisella's ancestor, the Apidium (from 35 million years ago), see its descendants, the Tremacebus (18 million years back) and the Ateles (the spider monkey of today) or look at any of the other 35 primates on the disc.

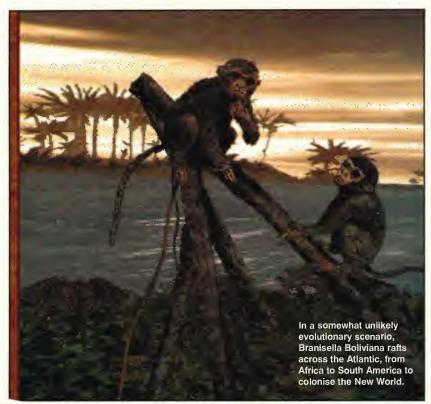
To study the anatomical features of your chosen ape-man, the Ancestors and Cousins screen is a necessary stop. Here you can view their heads, skulls, bodies and skeletons using 3D rotatable models. You can also compare the Branisella's physique with that of a previous or more recent primate species. For instance, its anatomy can be compared to that of Kenyapithecus africanus or Homo habilis. One good feature enables you to rotate the skulls, heads and bodies of ancient primates. Having seen the beasts on the evolutionary timeline, you can put them into context by comparing physical features. But the rotatable models are small, fuzzy and under-detailed.

Swamp-dwelling pig-horse

Using the Environment button you can study some of the creatures contemporary to the ape of your choice. Branisella looks out over the water to see a Basilosaurus, a carnivorous whale-like mammal, while in the jungle hides the Astrapotherium, a swamp-dwelling pig-horse. Snippets of text and pictures are available, but there's little depth. The Branisella's environment screen shows these monkeys rafting their way across the Atlantic on a bundle of weeds and sticks. Interesting,

The final morsel of information on the Branisella is to be unearthed by hitting an ear button and listening. It's a recap of all these details, delivered with child-like zest by the narrator. "I am the first South American in this portrait gallery, and yet I undoubtedly have African roots...'

All the creatures appearing in Origins of Mankind are similarly profiled. If you're studying any of the 10 species in our direct line of ancestry, however, you can also watch evolution occur using morphing animations. You can morph a Purgatorius unio into a



Cro-Magnon man, discovered in France, is in the Palaeontological Discoveries section of the disc.

Homo sapiens sapiens and vice versa, or morph any of the species in between into one another. Skulls, heads, skeletons and bodies can be evolved, and the timeline shows the years passing as evolution occurs. But as with the rotating 3D anatomical models, the view window is small and blurry,

and ultimately it seems a bit meaningless. There are no suggestions as to how these creatures changed their behaviour, eating habits or modes of movement. It's a natty feature, but exhausted in about half an hour.

The Theories section of the disc, however, might seem to be the place to go

James Ussher

Divine Creation

for more depth. Indeed not. It's presented in page-by-page book fashion, but it's hardly bookish in content. With only 29 pages there's hardly enough to span the philosophy and science stretching from theories of divine creation, through natural selection to genetics. A quick read (that's all it

is) confirms this. Darwin

is covered in just a few sentences.

More substantial is the archaeological mission, in which you click your way through a mock dig. It's aimed at a young audience,



The semi-erect Gigantopithecus blacki was a 300kg vegetarian.

but shows how we've learned from our Neanderthal ancestors. After assembling a team of paleoanthropologists, anthracologists, petrologists and so on, you find out

what each expert does. For instance, the condition of the bones tells us how the creatures died: microscopic marks on their teeth tell us about diet; and flint tools, with the nearest source of flint 90 miles away, suggests they may have been part of an exchange economy.

The animations, rotatable 3D models

diagram are great, but the disc's longevity is questionable. The topic is huge and full of conflicting theories, yet everything's presented in a straightforward manner. It provides an interesting introduction, but anyone wanting detail will be disappointed. (GW)

LET IT BURN

Who had fire first? According to Origins of Mankind, fire was domesticated between one million and 500,000 years ago by Homo erectus. This species spread across nearly all of the Old World. It is widely believed Neanderthal man was one evolutionary offspring of Homo Erectus, alongside our species, Homo sapiens sapiens.

CD REVIEW

Trace your roots with our exclusive intera<mark>c</mark>tive demo of Origins of Mankind.

DEVELOPER Microfolies PUBLISHER Maris CONTACT 0171 488 1566 PRICE £132.00 MINIMUM SYSTEM 486, 8Mb RAM, double speed CD drive, 256 colours, soundcard, mouse, Windows 3.1 or

> Plenty of good features that illustrate our evolution. Great for kids, but not detailed enough for adults.

VERDICT

REVIEW

ည



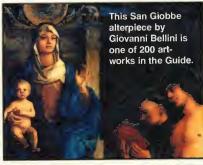
and roads of evolution

The screen shows these monkeys rafting their way across the Atlantic on a bundle of sticks. Interesting.

A DATE WITH FLORENCE

'For European and domestic flights, the main airport is Pisa. Peretola, which is only ten minutes from Florence, accommodates only short-haul European flights. Passengers outside Europe will have to transfer or fly direct to Milan or Rome. Hourly trains take two hours from Rome to Florence.' But exactly what does all this mean for the UK tourist? Pisa. Peretola, Milan or Rome? Not clear.







GREAT GITIES: EUROPE

With travel information on 15 cities, plus a list of posh hotels and Amex sites, it's Euro 96 of an altogether different kind.

DEVELOPER
Creative Multimedia
PUBLISHER
CentreGold
CONTACT
0121 606 1800
PRICE
£19.99
MINIMUM SYSTEM
486, 4Mb RAM, 0.5Mb
hard disk space,
Windows 3.1 or 95,
sound card, double
speed CD drive

15 cities covered in some detail, but the presentation is unappealing and of limited value.



f you're surprised to learn that London's weather is rarely extreme, but is often unpredictable, you'll be amazed to learn that while London buses aren't as speedy as the underground railway system (also called the 'tube') buses do offer a better view of the surroundings, especially from the upper deck. Temperatures vary between 43 and 79 degrees, but occasionally drop below 32 or rise above 86.

The choice of Fahrenheit rather than Centigrade is a dead giveaway to the main purpose of this double-disc set: to arm the American tourists with prior knowledge before setting off to 'do' Europe. But there's plenty here to convince Euro-sceptics that channel-hopping can offer loftier pursuits than picking up cheap booze and fags. Apart from London, you get the low-down on Paris, Florence, Venice, Athens, Berlin, Vienna, Lisbon, Edinburgh, Madrid, Brussels, Munich, Prague, Rome and Amsterdam.

Pick Prague and you'll have to shut the program down and find the other disc now because, as with all double-disc sets, the

thing you want is always on the other disc. Mind you, a simple 'Insert Disc 2' button would have been nice, rather than having to quit and begin all over again, compulsory animated intro and all.

From an American point of view, Prague seems to fall into the category of 'everyone knows where it is, but nobody wants to go there'. Compared to London or Paris the info is scant. We're told that the main square of Prague's Old Town has changed little since the late Middle Ages and that most of the houses on the east and south sides were built around 1230, but that hardly makes it sound appealing, now does it? Even the legendary Tyn Church is reduced to a sentence that runs, '18-spired Gothic church was begun under Charles IV in 1365; the tower was built almost 100 years later'. St Vitus cathedral fares a little better with a short video clip, but even this is uninspiring.

Great Cities tries to give you the best of both worlds. On the one hand it's a TV style travel programme with 300 video clips of sightseeing hot spots and reproductions of some 200 works of art, all narrated over classical background music. On the other hand, it tries to give you the kind of detailed travel information that TV travel shows never quite manage, and if they do, it's always disappeared off the screen before you can make sense of it.

But unfortunately, the title fails on both counts. Video clips are presented in a dismembered little window while the rest of your screen plunges into blackness. There's been no attempt to weave the video into the overall production. And all the other text and figures are bunged into scrolling text windows, which might be of some use if you could copy and paste it into your word processed travel plans. But as it is, they're all ever so slightly dull and lifeless. There are some nice touches, like the 360 degree panoramas of key sites (it's okay, we're not talking Fahrenheit any more) and the Mosaic and Navigator links so you can catch up on the latest travel information, but by and large, this is no match for a decent TV show and a couple of cheap books. (MRR)



Prague has only five sightseeing spots, apparently, one of which is Bertramka Villa where Mozart wrote his opera, Don Giovanni.



A range of simple buttons on the left and annoyingly scrolling buttons on the right give access to collection of text notes.



Of course, no trip to Berlin would be complete without seeing the Wall, or what's left of it, and Checkpoint Charlie.



Most gardens won't contain such substantial water features.



You can't have a successful garden without the right plants. If your cactus is dying in a bog garden, expert advice is at hand.



PLANTS

ardening has always been a polite form of warfare. Footballs fly over adjoining fences, dogs dig, and a 15-foot faux-tudor shed behind your neighbour's alpine rockery undoes hours of landscaping.

For a head start in this arms race, invest in Perfect Plants. A quick investigation reveals that 40 of its 2000 plants have needles - a suitably prickly hedge will scupper that dog. Pick a few of the 322 plants that grow over 5m high to starve your enemy's garden of light and choose from 137 plants to make him see red. On the chemical front, 20 plants have 'fetid or unpleasant' smelling flowers. And if the economics of war forces

cost-cutting, 28 of the 5m giants double up as needlers, with six having red flowers. No 5m high prickly red stinkers though, no doomsday weapon.

The plant searcher is the instant hit on Perfect Plants. It's difficult to resist looking for a small South American plant with blue flowers that loves dry conditions and blooms in spring (Neoregelia carolinae, as it turns out), even when your own backyard's a bog. You get a full screen picture of your ideal plant, tips on keeping it alive and occasionally Roger Phillips, the author, piping in with a few germane words. Some plants also link to plant care movies. For

instance, did you know the time to cut back

Clematis depends on the species, but the

simple rule is to prune just after flowering?

where the gardening tips refer to US weather zones. Still, you can almost smell the London Camellia Garden wafting past, with Roger suggesting you grow Witchhazel alongside your Camellias. They provide an interesting counterpoint to the big pink and red dish flowers of the latter. Perfect Plants succeeds in bringing the garden to your PC, and the plant searcher will help you quickly home in on your dream greens. The videos are less successful. mainly because, by necessity, they're very short. With Perfect Plants also available as a book, at around a third of the cost, you'll

We return to Roger in the six brief tours

of international gardens, where the American

need to use the database searching facilities

and the plant care movies extensively if

you're to get value out of the disc. (OB)

flavour of the CD is apparent. Four of the

gardens featured are American and else-

CD REVIEW Dig into PC Review's exclusive demo of

Perfect Plants on our CD-ROM.

DEVELOPER Content Content PÜBLISHER Macmillan Interactive CONTACT 01345 697008 PRICE £39.99 MINIMUM SYSTEM 486SX/66, 8MB RAM, 256 colours, double speed CD drive, SoundBlaster.

REVIEW

A functional and attractive tool for any greenthumbed PC user, although comparatively expensive.





Know your Dahlias from your Dandelions? Prove it, by naming the plants below, and then bragging about your score to all your friends and family. The answers are below.



Our affable host Roger Phillips investigates an English cottage garden.



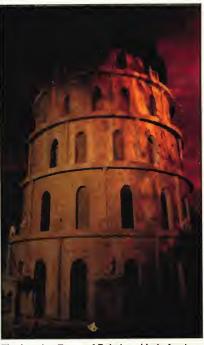




1. Fuchsia 'Voodoo' 2. Snowdrops 3. Alpine Toadflax



The Three Stooges, just waiting to be discovered. You know how it is - you wait centuries for an explorer to come along, then three turn up at once. Easter Island is one of 10 legendary locations lovingly recreated on the disc.



The Leaning Tower of Babel - a kind of outsized language dictionary and phrase book.

LEGEN

Lost cities - ten of them. Now that was a bit careless wasn't it? Next time put them in a safe place.

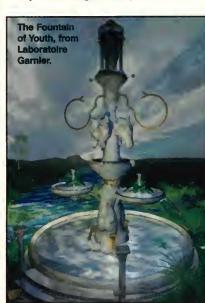


The bottom of the Bermuda Triangle, as seen from your submerged helicopter.

DEVELOPER EMME Multimedia PUBLISHER Koch Media CONTACT 01420 541880 PRICE £29.99 MINIMUM SYSTEM 486, 8Mb RAM, double speed CD-ROM drive, SVGA, mouse, Windows 95 or 3.1

Stylishly presented but slow to use and very shallow in its content.





hat can you say about Volume I of Myths and Legends? It wasn't mythical and it certainly wasn't legendary. The first in what will be a trilogy it looked at monsters and mythical beasts in a fairly stylish, but shallow fashion. Volume II sets out to continue one of these traditions, while putting the other to rest.

With the new Lost Cities and Mythical Lands, you begin your journey of discovery

in a rather plush medieval room. A caped monk plays a suitably medieval dirge on his aged pipe organ and waxes lyrical about forgotten lands.

What follows is a very poor attempt at injecting some adventuring into the disc. You move around a rendered room through half a dozen views until you find a sextant. Click the sextant and seven numbered stone tablets appear. You need to enter a code for the map co-ordinates of your

destination using the tablets. You hunt around the whole room, twirling a globe, clicking a skull (which has no effect but to produce a creepy sound effect) and then you get stuck because there's nothing else to do. You look high and low for the secret location of the codes, wasting the best part of an evening. You get totally frustrated. You find the numbers printed on the inside of the folded inlay card in the CD's jewel case. Do you laugh at the irony of it all? Do you heck.

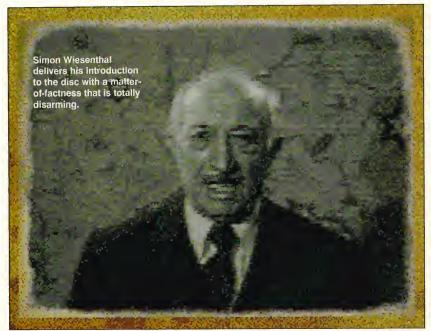
Finally the journey is underway and from here on in you can get to any of the ten locations on offer with three clicks. Each is lavishly rendered offering a kind of virtual stumble through a limited bit of scenery and a video clip introduction to the place itself, normally from a gorgeous actress who is suitably clothed for the individual locations. Naturally you head straight for the Garden of Eden, but sadly the fig leaf had been

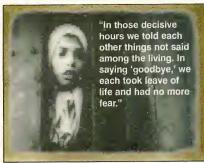
> swapped for a full-length dress. Eden is fairly typical of most of the locations on offer. There's an essay discussing the 'myth vs reality' aspects, some possible locations for the garden and

some well-chosen high quality artworks. The appearance is helped by the fact that Myths and Legends II is brought to you in thousands of colours and zoom facilities help you to get in close and study the detail. Sadly Does he really need such though, while the paintings a big fig leaf? Show-off. include such lovelies as The Garden of Earthly Delights by Hieronymus

Bosch (before he went on to make spark plugs) you're not told what you're looking at, so you won't know unless you knew already.

This is a very pretty package and there's some useful and detailed information as well. But unfortunately it only covers 10 locations, which might leave you feeling a little shortchanged. Especially when other discs, like FlagTower's Unexplained (reviewed last month) give you so much more. (MRR)









"I'll never forget the 19th of September 1941, the day the order came to wear the Yellow Star. Though our homes were scattered all over the city, from then on each Jew carried his own ghetto with him like a snail in his shell." - from Yellow Star.

The timeline takes you unsparingly through the 12 years of appalling degradation from 1933 to 1945.



Yellow Star is, in essence, an interactive book. Here, Albert Einstein appeals to the World on behalf of freedom.

"We must not only remember the dead, we must also explain what happened to them and why. Only in that way can we keep such a disaster from ever happening again." - Simon Wiesenthal.

his is not one of those discs you rush to play with. In the comfort, ease and happiness of long summer days, submitting yourself to what you know will be a harrowing and emotionally disturbing experience seems most unattractive, obviously. And yet, with the ugly and tragic

recurrence of ethnic cleansing both in Europe and Africa over the last few years, perhaps we should force ourselves to revisit the past, so we can once again be shocked

by the reality of its evils.

From the beginning, the plaintive violin songs of Yellow Star seem to interact with your heartstrings. Simon Wiesenthal, a survivor of the camps who has devoted his life to tracking down Nazi criminals, delivers his introduction in a matter of fact way that adds yet further weight to his words. He quotes Adolf Eichmann's stunningly callous response to the questions of how and why these things could have happened: "One hundred dead are a catastrophe, a million

dead are a statistic." But as Wiesenthal and others have said, "The murder of six million Jews must never be reduced to a statistic.

The Final Solution, or Endlosung, was being talked about as early as the turn of the century. But at that time, plans were limited to deporting Jews or placing them in segregated reservations. But it wasn't for another 30 years until the hatred fostered by the Nazis began to get out of hand.

In the late 1930s slogans began to appear in parks and public places saying, 'Beware of Jews and pickpockets'. Then in 1938, as the disc proclaims, Germany turned down the sinister path from which there was no return. We're told, on 9th November, on Goebbels' orders, Storm Troopers in civilian clothes lead 'spontaneous demonstrations' against Jews in Berlin and all over Germany. It was Krisstallnacht, the Night of the Broken Glass. It lasted a week. 200 synagogues and 7500 shops were set alight, 90 Jews murdered, hundreds injured, thousands

demeaned and spat upon and 26,000 Jewish men were arrested and sent to concentration camps.

But Yellow Star isn't only about provocative text. Video footage is used to illustrate the pages of this book. We're shown the Nazi propaganda film on Euthanasia, glamorising the and legalising the 'Law of God' under which 100,000 of Germany's 'sick' were 'put to sleep'. And as the situation descends into full-scale slaughter, the video evidence spares you nothing.

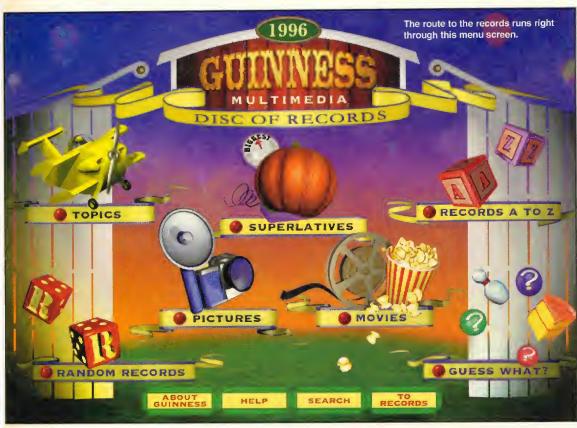
Few CD-ROMs will make you weep. On one level this is a basic multimedia production combining text, hypertext, a timeline and video clips. But almost more disturbing than the explicit scenes of cruelty and mass murder is the overwhelming sadness of watching children smile and wave as they board trains. And most disturbing of all is the way that 'ethnic cleansing' seems to have crept back into the vocabulary of the 90s, barely noticed. (MRR)

DEVELOPER Khush Media PUBLISHER
One Stop Direct CONTACT 0181 947 1001 PRICE £19.99 MINIMUM SYSTEM 486, 4Mb RAM, Windows 3.1 or 95. sound card, double speed CD drive

REVIEW

This won't win any multimedia development prizes, but it's as gripping as any disc you'll see today







This man spent the good part of a year doing press-ups – obviously he is the world's glutton for punishment champ.

Want to challenge for that milk bottle balancing record? Dedication and a copy of this disc based on the best selling Guinness tome are what you need.

GUINNESS MULTIMEDIA



The official world tree climbing record, and not a grizzly bear in sight.



Have you seen the state of this person's nose?

Iright, you've got your family Bible, Roget's Thesaurus and a well thumbed copy of a Jilly Cooper equestrian romp. What else would a self-respecting British household need on their bookshelf? A trivia-packed title that's topped best seller lists for decades, perhaps? A book full of statistics as pointless as they are entertaining? No, it's not the Wisden Cricket Almanac, it's that ever-handy Guinness Book of Records.

Ever the stimulus for comments such as, 'I never knew you could get one that big,' and other fabulously clichéd innuendos, the *Guinness Book of Records* since 1955 has without doubt become an important part of our lives. From schoolchildren to those of a pensionable disposition, the book has captivated millions with its list of limits, inspiring many to push back the boundaries of possibility themselves. Indeed, it's currently

the second best selling book in the world. Many of us have surely spent large portions of our formative years absorbing the facts contained within like the true height of the world's tallest man, the fastest animal, the most distant known planet, etc.

Taking advantage of the possibilities that multimedia offers, the perennial hardback has made the natural transition to the PC. So how does it fare, you ask? First impressions are that the book has benefited from the adaptation to the digital medium. Grolier Interactive, under license from Guinness, has done a commendable job in presenting more than 15,000 records. The graphical element is obviously a major plus compared to the book. The 60 QuickTime video clips and 1200 photographs offered are of a consistently high quality and add greatly to the aura of amazement surrounding the records themselves.

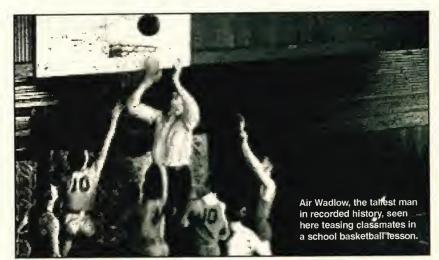
Pointless in the extreme



Stung by the record bug – this man had the largest ever mantle of bees.



Bouncy, bouncy. A unique form of transport, a wonderful way of keeping fit, an annoying and repetitive children's activity! the irreplaceable Pogo stick.



Guinness in genesis The initial idea for the Guinness Book of Records was conceived by Sir Hugi

of Records was conceived by Sir Hugh Beaver, an executive of the stout giant, after a day game shooting at Castlebridge House, Ireland. Unable to settle an argument about what the fastest game bird in Europe was, Sir Hugh decided to produce a book that would settle similar bouts of trivial one-upmanship. Consequently, the first Guinness Book of Records, compiled by Ross and Norris McWhirter (two statisticians who later appeared on the BBC's Record Breakers show), was published in 1955.



A useful randomising facility is available should you just wish to browse aimlessly.



Here's a man who's gotta lotta bottle - holder of eight world records, Ashrita Furman.



The game is called Guess What? and a lot of guessing you will be doing too.

DISC OF RECORDS

Then there's your ability to find a record through a number of search facilities - a great bonus. The front end of the program, the Features screen, lets you to find records alphabetically, through the Word Search facility (including Boolean logical operators 'and', 'or' and 'not'), by topic (through a process of sub-categorisation), and by means of superlatives like 'fastest' and 'smallest'. For those unwilling to expend any mental energy trawling through categories there is also the Random Record Explorer where illustrated records are presented in no particular order to the user's own specified reading rate. The process at times seems hypnotic and highly addictive but should you wish to remove yourself from the reverie you may stop to analyse a record in more detail when one piques your curiosity.

In order to check that the trivia is firmly embedded in your memory you also have

the option to play a rather demotivating quiz called Guess What?. This would have been an enjoyable pursuit if, for example, you had the option of choosing your answer from a number of alternatives. Come on, most of us only know a few sporting records and the odd fantastic feat. "How many people brought the longest dancing dragon to life?" is way outside the realms of normal peripheral knowledge. As it is you merely have to guess to yourself, whispering it to the ether, before admitting your stupidity when the answer is revealed. The quiz is no more than an exercise in frustration that could have been improved by offering the player at least some chance of success.

Another minor criticism about the Disc of Records is that it doesn't give the user the option to update records over the years as and when they are broken. Other multimedia releases provide a facility to download information from Web sites, why not this one? It seems a shame that ten years from now many of the records will have been usurped. This provision could surely have prevented the feeling of redundancy that plagues old copies of the hardback. Still, at £24.99, one can hardly quibble. Inevitable obsolescence it shall be.

Shortcomings aside, *The Guinness Disc* of *Records* is a solid release representing good value for money. Its appeal is wide and there is enough information to keep most users interested for a considerable period of time. You never know, you might find one record in there that you feel you can beat. If you do think you're made of the right stuff however, just remember, when you're patiently fitting the front forks to what you hope to be the world's smallest bicycle, there's one thing that every record breaker needs, and that's dedication. (*JT*)

DEVELOPER
Grolier Interactive
PUBLISHER
Grolier Interactive
CONTACT
01865 245770
PRICE
524.99
MINIMUM SYSTEM
486, 8Mb RAM,
Windows 3.1 or 95,
double speed CD drive

An addictive, trivia-packed reference work that positively yearns to be browsed. Great presentation.

VERDICT

REVIEW



HUNGRY?

Here's a stomachchurning record for you: "The largest item on any menu in the world is roasted camel, prepared occasionally for Bedouin wedding feats. Cooked eggs are stuffed into fish, the fish stuffed into cooked chickens, the chickens stuffed into a roasted sheep's carcass and the sheep stuffed into a whole camel." Information courtesy of Guinness Publishing Ltd.



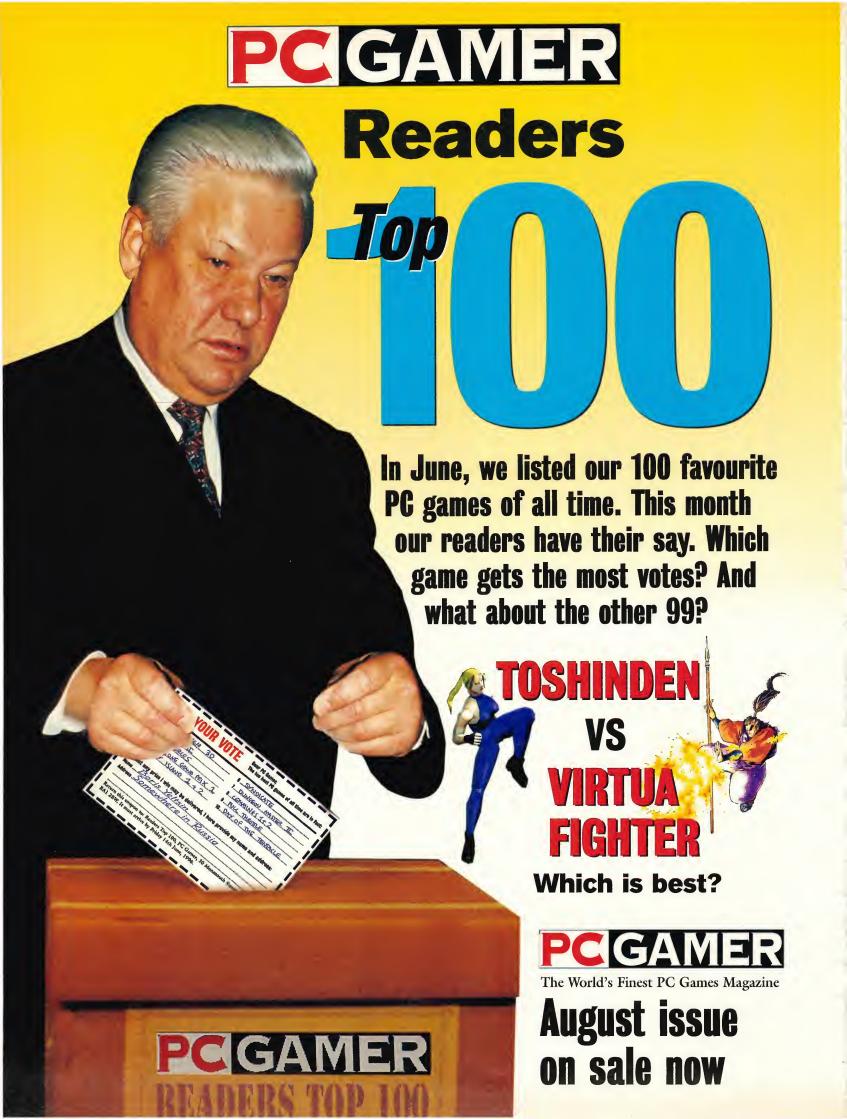
Fast Eddy
McDonald – the
undisputed king of
Quick Draw Yo-Yo
showdowns. Don't
follow him into a
dark alley without
your tool.



The world's tallest bar. Home of the world's tallest bartender perhaps?



Plug your ears, it's the loudest scream ever recorded. Looks as though he sat on the world's largest drawing pin. Yikes.





DSTUDIO

The world's most popular 3D package has just got even better. We cast a critical eye over it to see what's new.

> One of the new features is volumetric lighting, which is perfectly used to create the light rays in this scene. Note the Jumanji-esque rhino in the background.

t almost £3000, nobody could ever accuse 3D Studio of being cheap. Yet for the professional user, it provides features that more than justify its jefty price tag. It seems there's almost no area of commercial graphics where the program is not used, from TV adverts to games, from giant billboard posters to multimedia animations.

The previous version was entirely DOS-based, so the interface lacked some of the benefits Windows offers, and some of the disadvantages too. Chief among the drawbacks, is Windows' instability. To overcome that, Autodesk has opted to design the program for Windows NT only. NT is the hyper-stable, work-station and version of Windows which costs upwards of £250, and is designed never to crash. In truth, 3D Studio Max will also run under Windows 95, but Autodesk doesn't recommend it in that environment.

Anyway, compatibility issues aside, 3D Studio Max is a mammoth piece of work. Rather than simply porting over a version from another machine, Autodesk has completely rewritten the program from scratch, adding a host of new features and, unfortunately, removing some valuable ones as well-

The interface is a dream. You'd think that a program with so many options and such functionality would be monstrously overcrowded with menus and buttons making it difficult to navigate. But skillful object-oriented design means that there are rarely many more controls visible than are needed to achieve the tasks at hand. It's true that you're not exactly going to figure everything out just by looking at it, but after very little time indeed it's easy to work out what menu options need to be used in order to achieve the reyou're after.

THE WORKS



When something as important as 3D Studio is upgraded, you just can't ignore it. And we haven't. Starting just to the left here is our full review of 3D Studio Max. Now, we do realise that this program is meant mainly for NT users but you've got to admit, it's a bit of a Porsche among Yugos on the 3D scene. But like I said, it can't be ignored.

But 3D's not all we have in our Works section this month. As usual there's a fine array of reviews and features. If you need more processing power, see our easy guide to upgrading your chip on back page 28. Fancy a new video card? Then you won't have missed our feature round-up of the best ones out there over on 20. Finally, on the software front we take a look at virus protection on 86, and review the top multimedia authoring package, Scala on 90.

Mat Broomfield Technical Editor pcreview@futurenet.co.uk

Contents

n	Cand	:- 1	Ann	0.

Anti Virus software

round-up

Iomega Jaz Drive

Duel Cooling Fan

Hurricane 95

Scala MM100 90

Helpline

THE CHANGING LANGUAGE OF 3D

The language of technology is constantly changing to reflect improvements and modifications in the processes available. A few years ago, bump-mapping and texture mapping were all the rage, then came hierarchic animation. Nowadays, such features are taken for granted in even the least expensive programs. The latest buzz-plirase is 'Inverse Kinematics'. This is extension of hierarchic animation in which the animator defines linkages between laddered objects, and all parts of the of the hierarchy move realistically when a single object in the group is moved. Another new one is 'Volumetrics'. This is applied to describe lighting or fog, which are physical objects whose density and shape may be modified as the animation rolls.



Most budget programs place their emphasis upon object manipulation, while modelling, if available at all, seems to be included as a compulsory set piece, rather than as part of any desire to provide you with a competent set of modelling tools. With 3D Studio Max, nothing could be further from the truth, and object modelling is assigned the priority it deserves in a professional tool kit. After all, once you get to this level you won't be content using other people's predefined objects. You'll want the tools to make the most complex objects for yourself.

In the menus, object creation is given pride of place. The first two menus enable you to build primitives (shapes like cubes, spheres, cones, etc.), and splines (complex curve-based shapes). These are the just the beginning of the object creation process, and it's the Modify, rather than the Creation menu where the interesting stuff really starts to happen. As its name suggests, it has options to reshape, combine and otherwise alter your basic shapes. But there's much more to it than that. Basic shapes are often merely used as bounding boxes which define or limit more complex operations. A rectangle may appear to be just a box, but it could just as easily be used as the origin of a fractal landscape or a snow storm.

For animators, 3D Studio Max couldn't be simpler. Just about every part of a model or scene can be animated – there's even a snowstorm/star-field/rain effect. This, coupled with the wind/black hole/repulsion tool can be used to create atmospheric effects of



great complexity and realism. Of course, that's the more glamorous side of animation, but the day-to-day business of moving things is well supported too. The program uses the key frame system, whereby you only define where things start from, where they've moved to and what they look like. *Studio* will then calculate any intermediate frames for you. This applies not only to object locations, but their surface properties, shape, scene lighting and far more besides.

Infinite command history

One of the real beauties of the program is the way it maintains a permanent record of every creative action in the construction of both objects and scenes. Multiple undos are just part of it, and such functions are

For animators, 3D Studio Max couldn't be simpler.

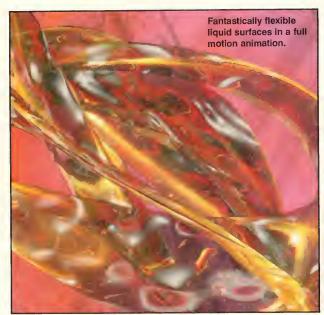
| Just about every part of a model or scene can be animated.



A gallery in the Studio. Once again a heavily atmospheric rendering is created in 3D Studio Max. Note the chiaroscuro effect on the statue's back and the TV's reflection on the marble floor.



With gorgeous textures like these, none of the cheaper programs come close to Studio.





Remarkable haze and light sourcing effects can be used to create almost any atmosphere.





You might use 3D Studio Max to design packaging - like these milk cartons for instance, Gluq.

CD REVIEW

Sample the power of 3D Studio Max with our coverdisc.

common in all decent programs from word processors to drawing packages. Max takes things further. You can return to any stage of the creative process and alter it, leaving other stages unchanged. For instance, if you've built a chess piece based upon a lathed 2D profile, then texture mapped and animated it, you can go back and alter its profile. The 3D result will look different, but the surface material remains the same. Such flexibility encourages you to experiment, safe in the knowledge that you have twice the security, should you make mistakes.

Because 3D Studio is designed for professional use where longer animations are needed, it offers the option to utilise all processor power available, facilitating the construction of render farms dedicated to the output of 3D frames. If you're lucky enough to own a dual processor PC, the program will distribute rendering tasks to each of the processors, so that the job will be done that

much quicker. Similarly, if you're operating on a 100 OC network, Max can utilise every single processor available.

Old plug-ins don't work

The original program was designed to use plug-ins, which acted as extension modules, adding further specialised features, which were often written and sold by third-party software companies. This facility was widely used, especially in the animation community. Dozens, even hundreds, of additional and often expensive plug-ins were produced. Though Max also supports plug-ins, none of the previous ones will work with this version. This is unfortunate. Whether that's a design limitation from moving from 16-bit to 32-bit architecture, or even a deliberate attempt to recreate new markets, it's hard to tell, but in so doing, Autodesk has added major food for thought to any would-be upgraders' considerations, as they see thousands of

pounds worth of tools become obsolete overnight. By way of meagre compensation, this version supports a new technology called Core Components, which integrates with it to a much greater extent. Rather than acting as add-ons, dangling from the outside of the program as plug-ins do, core components seamlessly merge with the existing interface, so that they appear as integrated features.

As you'd expect from a program of such huge power and flexibility, it's more than a little hungry for system resources. Despite the fact that it's supplied on CD-ROM, it needs at least 60Mb of hard drive space, and a hefty 32Mb of RAM, although 64 to 128Mb is the recommended figure! Because it's a 32-bit application, it works surprisingly quickly, even on 486 machines, but the processor intensive nature of professional 3D animation means that a decent Pentium is something of a must. (MB)

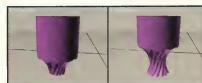
DEVELOPER Kinetix PUBLISHER Autodesk CONTACT 01483 303322 PRICE £3166.63 MINIMUM SYSTEM 486DX, 32Mb RAM, Windows 95/NT, 60Mb hard disk space, SVGA,

VERDICT REVIEW

CD drive

3D Studio has become more friendly, and the new features enable you to create even better work.

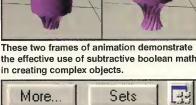




the effective use of subtractive boolean maths in creating complex objects



The Modifiers palette is huge, and its content varies according to the type of object that's currently selected.





grams for film, studios would generally send animation off to post-

Post-PRODUCTION TIME SAVER When using 3D pro-

production bureaux which perform a number of processes, ranging from frame-byframe editing, to layered compositing. Now 3D Studio owners are saved even that expense, thanks to the program's extensive variety of post-production options. These include precise colour control, the application of filters and effects, multi-camera crossfading, and far more.



CD REVIEW

You'll find working versions of Norton on the disc, and next month we'll bring you an exclusive demo fo PC-Cillin.

PC-Cillin 95

DEVELOPER
Touchstone
PUBLISHER
Roderick Manhattan
CONTACT
0181 875 4400
PRICE
£49.95
MINIMUM SYSTEM
386, 4Mb, Windows 3.1,

A comprehensive checking package at an affordable price, with free pattern updates to keep it current.

<u>C1</u>

4Mb hard disk



Your PC is vulnerable to a barrage of viruses, and unless you protect yourself, you could lose everything. We evaluate three top anti-virus programs to see how they can help.

MRUS



It's the cheapest of the lot, but PC-Cillin has the highest of NCSA certification possible.

KILLERS!

isreputable insurance salesmen often try to sell their products by using worst-case scenarios to highlight your need for protection. Applying the same methodology to anti-virus software, you could lose all of your data, and your hard drive could be permanently damaged by many of the 9000 plus viruses out there. Although the software companies freely admit that you'll never encounter most of them, you only need to encounter one to lose everything. Sceptical though PC Review is of scare tactics, while testing these packages, we discovered no less than five different viruses hidden away in files on a reader's PC.

Fortunately, because they were all secreted within executable files that had never been run, or compressed files that hadn't been unpacked, no damage was done. Still, even on well-maintained computers a constant threat exists. For your information the *CD Review* cover disc is checked by the University of Bradford's Computer Virus Certification Centre – and nothing gets past them.

You can think of viruses as electronic saboteurs. Some of them charge in guns blazing, trying to slaughter everything in reach. Others tried to sneak in stealthily via the back door. Some try to and bully their way onto your system with no attempt at concealment and others come in disguise, dressed up as friends, or hidden among the invited guests. The job of an anti-virus program is to detect all these kinds of intruder. Like a bouncer, it watches the door and tries to stop undesirables from entering. If they do somehow sneak in, it's the program's job to eject them.

All three programs here do these jobs perfectly well. They use TSR (terminate and stay resident) programs loaded via the AUTOEXEC.BAT file, to check data on your machine. Norton and Dr Solomon's monitor files copied to your machine, but only PC-Cillin can screen UUencoded email attachments too. However, the first two use VxD programs under Windows 95, which require no conventional memory, and are

therefore able to perform more comprehensive background scanning of file activity.

Still, detecting viruses as you try to run infected files is just one area of possible anti-virus activity. Another very powerful safety net is provided when you perform a file scan. So, you tell the program to scan all files in a directory or on a hard drive to check for the tell-tale signs of a virus. There are many types of virus, but self-modifying polymorphic ones are the most dangerous. Not only are they hard to detect, but each time they duplicate themselves, they change their appearance, making them masters of disguise.

All three programs use detection systems that look for virus-like activity to find polymorphic viruses. This can result in a lot of false alarms, but Dr Solomon's claims that while it manages an 80 per cent detection rate of new polymorphic viruses, it never incorrectly diagnoses safe programs as viruses. Norton is more realistic about its claims, but was reluctant to be tied down to specific figures. PC-Cillin is surprisingly modest about its abilities, yet it has just been granted top level certification by the National Computer Security Association. To earn this approval, software must detect at least 90 per cent of all new viruses. To be fair, Norton's software also has NCSA approval, but it's the older, less demanding certification.

demanding certification.

All three programs seem to work well.

Norton is friendly in action, and *PC-Cillin* is easy to install, while *Dr Solomon's* won't be needlessly scaring you every ten seconds. However, the latter program does not come with free virus recognition upgrades beyond the first year, and even in the first year it only comes out quarterly. The other two have free monthly upgrades available to anyone with a modem. *PC-Cillin* must win, if only in terms of price and completeness, but the others are only a whisker

behind. (MB)

Norton AntiVirus

DEVELOPER
Symantec
PUBLISHER
Symantec
CONTACT
01628 788580
PRICE
E92.83
MINIMUM SYSTEM
386, 4Mb, Windows 95,
6Mb hard disk
Modest in its

Modest in its detection rate claims, but nonetheless easy to use, and very capable

VERDICT





Although it doesn't have the same level of certification as PC-Cillin, Norton comes with free BBS updates each month.



Norton Anti-Virus is both quick and efficient. It's also very straight-forward to use.

Dr Solomon's Anti-Virus Toolkit

DEVELOPER Dr Solomon's PUBLISHER S&S International CONTACT 01296 318800 £146.88 MINIMUM SYSTEM 386, 4Mb, Windows 3.1, 4Mb hard disk intelligent detection of VERDICT polymorphic viruses, but too expensive and updates are too REVIEW Infrequent.



Here's Dr Solomon's WinGuard in action, keeping a constant eye on all computer and file activity.



Dr Solomon's FileGuard shows that getting anti-virus software can be money well spent.



WHAT CHOICE DO YOU HAVE?

This is not the only removable solution. The smaller Zip drive from Iomega can handle 100Mbs and is far cheaper. Yet more capacity is offered by Syquest's EZ135 and we have yet to see Syquest's Syjet, a drive with a higher capacity than the Jaz which is intended to be its direct competitor.



Software is used to write protect disks because there is no way of doing this on the hardware itself.

IOMEGA JAZ DRIVE

With the price of storage in freefall lomega's latest medium claims to makes mass storage cheap and easy, but is the Jaz really the last word in disk drives?

few years ago the idea of having a 1Gb drive inside a PC was reserved for professionals. Nowadays most new machines are shipped with them and you now have the choice of adding a peripheral which uses 1Gb removable disks. The Jaz drive certainly has impressive specifications, but with technology still advancing fast, there is some question over its long term use.

The drive comes as either an internal or external unit. As it's a SCSI device, it is simplicity itself to fit. External ones just need connecting, while internals come with mounting units so they can fit into 3.5- or 5.25-inch bays. Obviously, it needs to be one with external access. Connect the power and SCSI ribbon and you are away.

Carry your information wherever you go

Move your less used applications

Backup your important files

The tour tells you how great the Jaz is – something you'll be glad to see after spending £400 on it.

The Jaz is Windows 95 compatible so it's as plug and play as they come. You can add it by sitting through the Add new Hardware procedure, the drive comes with a

floppy disk containing Guest 95, a program that scans quickly for lomega removable devices. In all, you should have the whole thing fitted and running within ten minutes.

Once installed

you can get at the soft-

ware which comes on the Jaz disk. This includes a tour of the drive, which is a bit pointless as it's all very obvious. More important is the installation of the Jaz Tools. These are tools that can be accessed by right clicking over the drive's icon. They cover software write or read/write

Promotion

Orsk Eject Button

protection of the disk, which is necessary as

Other information given by the Jaz Tour is where to find the eject button. Handy when you want the disk back.

there is no security tab on the disks like there is on floppies. They also allow you to make a disk non-removable which you might need to do to run some software that doesn't like removable devices, although we didn't come across any. The *Tools* also include a utility for copying complete disks.

The disks can be bought in both 1Gb and 500Mb capacity, although once you've deleted a lot of junk that is on the Jaz Tools disk, like the tour and a CD demo, you shouldn't need to buy one for a while. This is the Jaz's downfall. It's a little too good, especially for normal users. If you've got a fast SCSI card, then you'd believe that you were using a normal hard drive, but one that you can eject and swap over at any time. However, when are you likely to need to swap disks?

Your internal 1Gb hard drive fills up quickly when you start out because you install office suites, games and the like. After that, you'd have to be involved in video or audio work to continue filling up whole gigabyte disk. If you've just run out of space, then a cheap second IDE drive would probably be better suited and much more economical.

If you do a lot of storage intensive work, then the Jaz offers you this infinite upgrade path. But you'll probably only find it suitable to your needs if you regularly have to transport your data between compatible machines. (OB)

DEVELOPER
Iomega
SUPPLIER
Iomega
CONTACT
0800 973194
PRICE
£468.82 (£104.57/disk)
MINIMUM SYSTEM
Windows, SCSI
interface

REVIEW VERDICT

A gorgeous product, but expect many further developments in this area.







MAKING YOU A BETTER GUITARIST

http://www.futurenet.co.uk/music/totalgultar.html



GET MORE FROM YOUR GUITAR WITH BRITAIN'S MOST POPULAR GUITAR MAG!



CLASSIC TRACK

Each month, we print full tab and notation to a classic guitar song, with a backing track on CD to play along to.



DEVIEWS

The only guitar mag to rate reviews, so you can tell the best buys at a glance. Plus, hear them for yourself on CD.



INTERVIEWS

We talk to the stars of the guitar world, pick their brains for playing tips, and teach yon their greatest guitar parts.



PLUS EVERY MONTH:

Current album tracks from new and established artists © Reader demos © The best competition prizes © And much, much more...



TECHNIQUE

Complete tutorials in Rock, Blues, Jazz, Rhythm Guitar, Acoustic and Novice. All with audio examples on CD!



ROUND-UPS

We compare guitars, effects pedals and amps and tell you the best of the bunch. Plus, you hear them side by side on CD!



Q&A

Got any problems? We answer your guitar-related queries, from buying equipment, to setting up and playing.

Dual Gooling fan

Ithough the summer's rather later in coming this year, millions of pounds worth of data, and thousands of man hours worth of work will be lost due to heat damaged computers. You probably think to yourself, 'Oh my system doesn't get that hot.' You may even think that the processor's the only bit that gets hot in the first place, but in both cases, you're wrong.

Pentium processors give off a huge amount of heat, and in the early days it wasn't uncommon to hear about them getting hot enough to melt the motherboard. The immediate solution to that problem is to add a heat sink to the chip if it doesn't have one, and attach a fan to it, if it does.

However, the problems don't end there. The other boards in your system, and especially your hard drives, all generate a lot of heat. If you have lots of hard drives stacked on top of each other, or cards in most motherboard slots, there's every chance that you'll encounter some sort of problems when the weather gets hot. The short term



If your computer seems to be locking up inexplicably, perhaps it's overheating. Maybe you need to take this fan for a spin.

solution is to open your case, and leave it open during the hot weather, but a more elegant fix comes in the form of this excellent fan card from Stak.

The card is simplicity itself to fit, and it doesn't require a motherboard slot, although

it does take a tiny amount of power from your PSU. Plug it in amongst your cards, and it works exactly like a small extractor fan, sucking hot air straight out of your computer, and promoting air flow. Brilliant, simple and top value too. (MB)

DEVELOPER
Stak Trading
PUBLISHER
Stak Trading
CONTACT
01788 577497
PRICE
£16.45
MINIMUM SYSTEM
A spare motherboard
slot of any type.

This fan is so cheap it should be a standard component! A potential life-saver if the weather's hot.

VERDICT



Hurricane

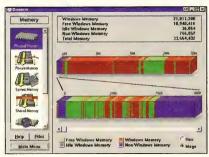


Even on a computer with 32Mb of memory, the program improves overall performance by optimising the way Windows works.

AM doubling software has got rather a bad name since the *SoftRAM* debacle, in which thousands of people bought useless software that made, and appeared to live up to, claims that in fact it simply was not capable of. *Hurricane* is another RAM management program, but it's more conservative in its claims. It works with both Windows 3.1 and Windows 95, but under 95, it has an extra program that truly does attempt to double RAM in certain circumstances.

The package consists of multiple program modules, and you can choose which ones to activate, and which to leave dormant. *RAM Expander* is the important module if you're purely after more working RAM for increased multi-tasking efficiency and so forth. It's the bit that tries to double your memory and in so doing improves your

machine's overall performance by reducing virtual memory hits. Helix does concede that it's not simply a matter of compressing ordinary memory, and saying, 'There you go, twice the RAM.' There are certain types of application that don't respond well to RAM



Hurricane is the latest attempt at increasing the amount of RAM available to Windows users. Graphs break down memory use.



doubling, particular those involving graphics.

Another interesting module is WinPack, which enables you to minimise inactive programs in such a way that most of their memory resources are returned to the system for re-allocation. This is an intermediate step, short of simply closing the programs down altogether.

Whilst *Hurrican*e did provide modest gains, even on machines with lots of RAM, it had a tendency to crash, which appears to be due to a conflict with either a memory resident virus killer or an install monitor, both of which are common programs. (MB)



There's more to Hurricane than mere RAM compression. It improves many other areas including print spooling and disk caching.

DEVELOPER
Helix Software
PUBLISHER
Roderick Manhattan
CONTACT
0181 875 4400
PRICE
£49.95
MINIMUM SYSTEM
386, 4Mb, Windows,
2Mb hard drive.

It does help to optimise your system, but you can buy another Mmb of real memory for this much money.





Scala can present you with a visual storyboard of the pages and events in a production. This one's from the CD.



The program boasts a wonderful browser, which lets users see thumbnails of images in a directory. Useful for when you're planning a production.

CD REVIEW

Make multimedia with the Scala demo on our CD-ROM.

DEVELOPER
SCAIA
PUBLISHER
SCAIA
CONTACT
01920 484811
PRICE
£150
MINIMUM SYSTEM
486/33, DOS 5 or
Win3.1 or 95, SVGA,
8MB RAM, CD drive,
mouse, 10 Mb hard
disk space, soundcard

Easy-to-use multimedia creator bristling with effects. Rewards outweigh effort.



VERDIC

SCALA MIN

Instead of interacting with someone else's multimedia, why not create your own? Scala MM100 offers you that chance...

ou'll like the box Scala comes in. It reminds us of the Hitch-hiker's Guide to the Galaxy which screamed in bold, frightening letters 'Don't Panic'. There, on Scala's carton in non-frightening letters, it says: 'No programming necessary. Even the least experienced PC user can make TV quality multimedia productions in minutes.'

And it's true. Basic presentations take no time at all. It's simply a matter of clicking and pointing to answer multiple-choice type questions then seeing your ideas generate into stunning effects and transitions.

This well-designed simplicity won't surprise anyone familiar with the Amiga, which Scala helped establish as a serious professional graphics tool. The same kind of gentle interface and rock-solid features have translated amazingly well to the PC.

The software is supplied on a CD as well as on two floppies. To install from CD will take up between 15Mb and 600Mb. It boils down to a simple choice: run quickly from hard disk or slowly from CD-ROM.The floppies, meanwhile, provide a quick install option, which leaves the artwork cupboard bare, but does give you a fully functioning program and plenty of drive space left.

The program works from DOS or Windows (3.1 and 95), and completely commandeers your system for it's power-hungry application. Image files, WAVs, MIDIs, CD music and FLC/FLI animations can all be imported and configured within a presentation. MPEG is also supported, but only if you have a dedicated graphics card.

Control of a running presentation is either by mouse, keyboard – including cursor control as well as hotkey actions – and there is touchscreen compatibility, if you have the hardware. There's even a stand-alone utility to convert TrueType fonts for internal use within the program.

Though this isn't meant to be an animation program per se, you'd be hard-pressed to guess it; the use of FLIs and over

200 screen wipes and fades conjure up some stunning animated effects. And all this happens full screen in the mode of your choice; none of those stamp-sized windows some multi-media packages offer. This is serious broadcast quality, and double-buffered for smoothness.

Probably the hardest concept to grasp initially is button definition. While Scala simplifies most things, a degree of logical planning is needed to make the program do exactly what you want. That said, the murky world of variables and branching has never looked friendlier. Control of a presentation is through a text-based script, generated automatically by Scala. Fools or heroes can edit this themselves if required! Others will be happy to stick to the graphical front end.

The interface, on-line help and manual and special effects are really well designed, and the quality of output is high enough to make even a hardened Amiga owner see the light. (PL)

The moving finger writes



A stock background from the Scala CD is loaded, and text entered with outline and shadow styles. The message will appear over the image using one of the 200 or so transitions available. Here, we've chosen to use a soft diagonal wipe.



Any graphic or text item can be turned into a button hotspot, which can be made to launch an event when it is clicked. Here are some professional-looking sample boxes which come with the program and which make super buttons.



Our second page will have an FLC animation, from the CD. The text wipes in as if she is typing it, spelling out the message, and the button (mid right) is being defined. A variable called PCREV has been created with text output in quotes.



And just to prove that it works, here is the final scene from the production after the button is clicked. You can't see it, but a MIDI file plays throughout. Scala also lets you play WAV files and CD music for a higher quality audio accompaniment.

Experts? We are indeed. The next four pages will solve your problems and hopefully help you squeeze that extra bit of efficiency out our your home PC. Top tips abound so read on.

Got a problem you just can't fix? Well, write it down on a piece of paper and send it in to Helpline, PC REVIEW, 30 Monmouth Street, Bath, BA1 2BW. We'll try to solve it.

WINDOWS

WHY IS IT SO SLOW?

The problem I have is quite puzzling. My PC is a P133 with 16Mb EDORAM, 2Mb VRAM video card and a 1.6Gb compressed hard disk. It takes anything from 45 seconds to a minute to load Windows 95. A friend of mine gets his copy to load in 12 seconds. What am I doing wrong?

After a look round all the machines in Athis and the surrounding offices, together with messages left on various Win95 newsgroups, it seems that most people's machines really do take an age to boot. Those who manage to get them to boot much more quickly don't seem to know why. In many cases the hardware is comparable, so there don't seem to be any obvious hardware related performance issues to worry about here.

Two things to look at might be the speed of your hard disk - obviously a compressed hard disk is going to be slower than an uncompressed one - and the number of applications you have in your taskbar. According to one rumour the number of installed fonts makes a difference as well, as do some printer driver routines which take a while to check if the printer is connected.

But the short and honest answer is we don't know. People who have speedy boot times are rather like the Loch Ness monster - rumours abound, but we've vet to meet one in person. If any readers can shed some light on this mystery we'll print the details in a future column.

Windows tip of the month

SECURITY IN LEGACY WINDOWS

Anyone who works in an office or shares a house can find themselves in a situation where they need to protect data held on their PC from prying eyes. Believe it or not, with a little fiddling about, you can use a screensaver as a security device. Here's an interesting series of tips for Windows 3.x from Richard Ashley of Warrington that make it easy to do just that...

Firstly, you have to set up a screensaver so it can be run as an ordinary application. In the WIN.INI file find the line that says:

Programs=com exe bat pif

and add scr (the screensaver file type suffix) to the list. Next, add the various screensaver .SCR files to a program group within Program Manager. All the screensavers have icons, which makes this easy. Finally, change the command line (using the File/Properties menu item) by adding /s to the end of the line. Now the screen saver will run immediately when you doubleclick on it.

Next, go into the Contol Panel and add a password to the screensaver you have just moved. Then drag the screensaver's icon to the Start Up group. Now, when you boot Windows the screensaver will run immediately, and you won't be able to get into Windows without knowing the password. And if you have to leave your desk for any reason, you can run the screensaver by hand with the same result. That will keep nosey workmates out of your business.

For added security, you can set up PROGRAM.INI to make it impossible for people to do certain things on your PC. Add a restrictions category at the end of the file and use some or all of the following settings:



Windows 3.11 users can employ the Primordial Life screensaver on CD Review as a security device.

Edit Level = 1 ... Can't create, delete or rename aroups

2 ...or program items

3 ...or command lines

4 ...or any changes at all

No Run = 1 . . . disables File/Run

No File Menu = 1 removes the File menu completely

No Close =1can't close Program Manager

No Save Settings = 1 doesn't save settings on exit

Your Windows 3.x system is now safe.

Absolute Beginners

What is this clipboard I keep seeing everywhere? What can I do with it?

The clipboard is one of the most useful tiny applets available in Windows. It gives you a way of getting information from one application to another without having to save it as a separate file and load it again.

You can store anything you like on the clipboard - text, sounds, graphics, whatever. The features to watch for are cut, copy and paste options, which usually appear under an Edit menu. There are also keyboard shortcuts to

make life quicker and easier. Here, as an example, is how to get a Web page address (uniform resource locator, URL) out of an email and into a Web browser without needing to retype it by hand.

Start by highlighting the URL with the mouse. To do this move the cursor to the start of the URL, then drag the mouse across while holding the left button down. Now hit the [Ctrl] key and [C] at the same time to copy the URL to the clipboard.

Now, within your browser, highlight the existing URL, hit the delete key and then [Ctrl] and [V] together. The new URL appears, and you can click on OK to start a search for it.



LOST POINTER

If you own a laptop and you find the mouse pointer disappears when you move it because the display can't keep up, Windows 95 includes a mouse trails feature which can help solve the problem. Click on Settings, then Control Panel, then Mouse. Select motion and you'll see the dialogue box appear. Click on Mouse Trails and the mouse will leave a trail of old images when you move it, making it easier to find.

RESOURCE TRACKING

Is there any way to see what Windows 95 is doing? I know there's the system monitor, but it doesn't seem to tell me much about what I want to know.



The Windows 95 System Monitor keeps its finger on the pulse of your PC. You can use it to learn about Windows.

A The System Monitor applet can actually give you a complete picture of what's happening inside Windows 95 on your PC. The default settings, however, aren't up to much, so you'll need to tweak them first.

On most systems, the System Monitor isn't installed at all. If this is the case, your first step will obviously be to run Add/Remove Programs on the Windows 95 disc, and make sure it's included in the Accessories section.

Next, select Add Item under Edit. Items are divided into three groups. Pick one – Memory Manager, for example – and a list of options should appear. If you select one or more of these they'll show up as bar graph values that change as you work with your PC. The same applies for the settings in the other groups.

But what do they mean? Each item comes with a brief explanation that tells you what it's for. You'll need to know a little about how Windows 95 works internally to understand these options, but if you know what you're doing System Monitor can be a comprehensive diagnostic tool for your setup.

HARDWARE

FLOPPY PROBLEMS

QI recently bought a new PC, and now I get regular floppy disk errors. Is there anything I can do to sort these out without sending the whole machine back to the shop? It was a mail order deal, and the shop is miles away.

Alf a floppy is very slightly damaged, you can sometimes get the information that was on it back by running defrag on it. Defrag works just as well on floppy disks as on hard ones. On a floppy it copies damaged data to another disk block. If the data can be salvaged, defrag will do it. If it's beyond repair then defrag will have a go at copying the data anyway, but you'll get garbage in the new block.

Temporary measures aside, you can tell whether or not you have a dodgy floppy drive by listening to it. If it goes clunk-WHIRR, clunk-WHIRR in a regular rhythm and frequently comes up with damaged disk errors then you can be sure something is seriously awry. Floppies aren't the most reliable data storage medium, but in practice you shouldn't get more than two or three serious errors a year and these usually won't be the fault of the drive itself. If you're getting this error every week, however, your drive is definitely in need of attention.

If you don't want to send the whole PC back, I'd suggest telling your dealer what the situation is and getting them to send you a replacement drive. Floppy drives are actually very easy to fit.

Mechanically they are held in with side screws in the cage that holds all the drives. To start your transplant, undo these and put them in a safe place. Next, note which way round the connectors are. There are two – power and data – and the cables will always have some



STRANGE FILES

Looking in your DOS directory, there likely to be are lots of files with cryptic names such as

~SRCo8o8.TMP. Some of these files may be quite big. These .TMP files are the notes that DOS keeps for itself whenever you use certain applications. You're unlikely to do any damage if you get rid of them, but just to be sure it's a good idea to get rid of the older ones rather than the newer ones. Anything that's more than a month old should be passed its sell by date now and it should be safe to get rid of it.

DOS Fixed files?

When running defrag I find a big chunk of my hard disk marked immovable, and doesn't seem to be accessible at all. Defrag leaves it alone and seems to work around it. Is this a fault on my hard drive, or is something wrong with defrag?

Neither. What you've got there is none other than the Windows swap file, which by its nature shouldn't be moved once it has been created. So there's nothing wrong with either your hard disk or your version of defrag – it's just that DOS treats the swap file as an untouchable disk area. In Windows 3.11 you can change the size of this area by hand in the EM386 box in the Control Panel. Windows 95 is slightly less open, and

makes it very hard to control what the swap file is doing by hand. If you spend most of your time in DOS you may want to trim the swap file down to a minimum, or even get rid of it completely, as it's only used by big Windows applications.

Memory management

I bought my first PC games recently, but I can't get them to work on our home PC. Even though it has 16Mb of memory it keeps flashing an 'out of memory' error. Is there something wrong with it? Or am I missing something obvious? Please help – I'd love to be able to start gaming...

It sounds very much like you're running Windows 3.1x. If that's the case, you'll probably need to run a program called Memmaker to make sure you have as much memory free as possible. One problem with the way the PC works is that the first 640k of memory is very special. All the important applications have to squeeze in here, and if there's not enough room they won't work, no matter how much memory there is in the rest of the system.

Memmaker kicks as many of these applications into the area between 640K and 1Mb. This makes the first 640K less busy, and that means there's more of a chance that your games will squeeze in. To run Memmaker you have to be at the C:> prompt. It gets very confused indeed if you try to run it from within Windows, so if you're in Windows quit out to DOS by closing the Program Manager. Then just type memmaker.

Memmaker will ask you about various configuration options, but you'll usually find the default settings work just fine. It kind of mark either on one of the cables or on the plug. Then just whip out the old drive, slide in the new one, reconnect the cables and tighten the screws. Your floppy will be as good as new – if not even better.

Mouse hassles

My mouse keeps getting gummed up. I don't eat Chinese food off the mouse mat or leave my chewing gum on it, and I clean the mouse ball regularly. But it seems to take no time at all before the pointer starts sticking again. This is annoying me – can you help?

As it happens, not all mice are created equal. Cheaper rodents gum up more quickly, because the materials used to make them are of inferior quality. There's a tendency for the plastic and rubber in some of them to erode slowly with use. Reputable names like Logitech and Microsoft are usually a good bet, and in fact it's often a false economy to get a something slightly cheaper just to save a few pounds. Still, a good precaution against this gumming up problem is to dust your mouse mat regularly.

The best mice are optical designs which have no moving parts. These use a special mouse mat with a printed graticule. As the mouse glides over the mat the mouse hardware counts the number of lines that have been covered, and works out a position from this. Optical mice hardly ever go wrong, but they're almost impossible to find and of course you can't use your favourite mouse mat with them. Professionals swear by them though.

MISSING SPACE

Q A friend told me that hard disks always waste lots of space – so even if I write a one byte file to disk, there's actually

minimum of 16k of space used to store it. This can't be true, surely? Isn't that incredibly wasteful?

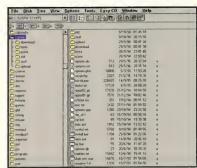
Alt would be if it were a ratio of 16k to every byte. But luckily it isn't.

Because it would be impossible to label every single byte on a disk individually—if disks worked that way the index would be the same size as the information—each disk is divided into blocks called clusters, which are the smallest possible unit of information.

In DOS clusters are either 16k for small disks or 32k for large disks which are over the 525Mb standard limit set in the DOS BIOS.

So it's true that if you write a single byte to a file, another 16,535 bytes are used to store it. But it's also true that if you write another byte it is stored in that area which appeared to be wasted. So in practice the wastage tends to average out at about 8k per file. With maybe a thousand files on one hard disk, this means that there's maybe 8Mb of space being wasted.

This sounds terrible, but of course the alternative is space wasted in maintaining the links and pointers needed to



Yes, it's true – every hard drive has megabytes of wasted space on it. But this is not a bad thing.

find the file. So however you arrange it, space will always be wasted. And the 16k cluster size seems like a good workable compromise.

SOUNDING OFF ABOUT SPEAKERS

Q'd like to amplify the output of my soundcard, but don't have room on the desk for any speakers. What other options are there?



When buying speakers it's always a good idea to go for magnetically shielded ones. You can always plug a sound card Ainto a hifi. Most cards have stereo mini-jacks. Ask your hifi shop for a lead that will link one of these with your amp. Your other alternative is monitor mounted speakers. These clip or slide onto brackets on each side of the monitor. They're still not as small as they could be, and the sound is often more modest than that of proper PC speakers, or indeed a good hifi system. But they will do the job. With speakers like these you have to make sure they're shielded, otherwise they'll affect the deflector coils in your monitor and could even cause

Finally, you could get normal speakers and just keep them on the floor under your desk. Some speakers are actually designed to sit on the floor.

lasting damage.

VRAM AND DRAM

Q. What's the difference between the VRAM, DRAM and SRAM used in videocards, and is it worth paying the extra? A. DRAM is standard dynamic RAM. Dynamic RAM forgets things unless it's reminded regularly this is called refreshing the RAM, and it slows the RAM right down. VRAM is video RAM, which has a very useful feature - it can be read from and written to at the same time. It's much faster than DRAM but also much more expensive. SRAM is static RAM – as long as the power is applied, SRAM will remember whatever it's told to without refresh, which makes it much faster than DRAM.

As for whether it's worth it, that depends on what you'll be using a video card for. For ordinary Windows work then no, it probably isn't worth the extra. For time-critical rendering and animation then a fast card is well worth the extra. Otherwise, don't bother unless you're a speed demon.

reboots twice to check the settings, and finally changes the important AUTOEXEC.BAT and CONFIG.SYS files to reflect the alterations It's made. From then on your PC will boot with as much free memory as it can manage, and your games should work with no problems.

Batch Parameters

I'm trying to make a batch file that deletes certain kinds of files from my hard disk. I want to be able to give the extension of the files to the batch program, but I don't see if there's any way to do this.

All you need to do is use the replaceable parameters %1, %2 and so on. Include these in your batch file as written, and then type in the details when you run the batch file. So for example if you want to delete all .TMP files the batch file would look like this:

REM BIGDEL.BAT Generic file deletion, 27/6/96

DEL *.%1

and you'd run the file like this: EIGDEL TMP. If you wanted to delete another kind of file, you'd type in a different extension.

```
Prodikt TAT 5-29 Zewische 11:01

JRZU San 10:03 Zewische 31:07

Z36 Tile(e) 12:533,700 bytes 11:07

Z35 Tile(e) 23,470,272 bytes free

Z3,470,272 bytes free

Z3,772 bytes free

Z3,77
```

Generic file deletion is easy when you know how to pass parameters to batch files.

BIOS passwords

Most BIOS passwords are preset, so if you'enable them by accident you don't have to panic or do something daft like trying to disconnect the back-up battery. All you need to know is the magic word. For the AMI BIOS the password is AMI, and for the Award BIOS it's BIOSTAR. Phoenix and Microid BIOSes won't enable the password feature unless you type a password in. In general though, there's very little point turning this option on unless you have super-bright and inquisitive children around, or you work in the kind of office where you can get back from a lunch break to discover that someone has refomatted your hard disk for a laugh.

ERROR ARENA

Like other Windows users I've seen plenty of General Protection Faults. But what is a GPF? And why does it crash my software?

Windows likes to keep each program neat and tidy. When there's more than one program in memory, each is given an area of memory in which to work. If it tries to access memory outside of this area, Windows notices and shuts it down to prevent damage to other data.

GPFs are usually caused by bugs in an application, and perhaps even within Windows 3.1x itself. although with legacy Windows it's hard to be sure. Here's a useful tip - you sometimes find that if you click on the Ignore button a few times the problem goes away, at least for long enough for you to save your work. This is by no means an infallible cure, but if the only other option is two or three hours of wasted work it's worth trying the button a few times to see if it can get you out of a tight spot.

MIXED BAG

MODEM SETTINGS EXPLAINED

My modem is a Motorola 3400 28.8k, but the *Turnpike* software I'm using has an extra box for connection speed which doesn't mention 28.8k – the nearest numbers are 19200 and 38400. Which setting should I use? And why isn't 28.8k mentioned anywhere? I'm totally confused.

There are actually three numbers that matter when using a modem. The first is the nominal connection speed across a phone line represented by the numbers most commonly associated with modems – 9600, 14.4k, 28.8k and so on. This is the maximum speed at which the modem can send and receive information when it's connected to a remote computer. Now obviously, the modem has to connect to the local computer as well, and that's where these other numbers come in – they set the speed at which information is passed to and from your PC.

In the early days of modems these two numbers were always the same. But as modems got cleverer, this uncomplicated situation changed. All modern modems include data compression, which basically means they compress information on the fly – it's a bit like having a file zipped and then unzipped automatically as it goes from one machine to the another. This means the effective transfer rate down the phone line can be much higher than the nominal 28.8k, 14.4k or whatever. With a good line and certain kinds of data you can get a transfer rate of over 100k out of a 28.8k modem.

The best setting to use is the highest one you can get away with. If it's too high, you may start getting errors. But start with the 115,200 speed anyway, and then if there are problems take it down a notch or two – that way you'll be guaranteed the highest speed your hardware can handle.

Save ± Cancel Remove " " Generic ATZ ± O Com1 PABX (line access) Help O Pulse ⊕ Com2 ○ Com3 O 57600 ○ Com4 O 38480 Other O 19200 Point of Presence (PoP) 4 O 9600 O 4800

Most software lets you send modem to PC connect speeds to squeeze every last bit of speed out a modem connection. Here's how to do it with Turnpike's Internet suite.

WHAT'S MIDI?

My PC came fitted with a SoundBlaster 16 soundcard. I believe it's possible to hook up a piano-type keyboard to a PC using this soundcard and something called MIDI.

Can you explain how this works and what I could do with it? I'm a piano player who wants to go digital with my new PC.

MIDI is short for Musical Instruments Digital Interface. It is a remote control option that's fitted to most modern electronic musical instruments. With MIDI you can play one keyboard, connect another and have both playing at the same time. Or you can control a collection of keyboards, drum machines and other digital instruments from your PC. To use MIDI you'll need a special adaptor plug for your soundcard. This should plug into the multipin joystick port on the back and adds a couple of 5-pin round connectors, the kind that are standard for the MIDI system.

Now you can add your piano type keyboard – the Evolution MK-1 is a good, affordable choice, and comes with some suitable software – and play music into your PC. The sounds in your soundcard are very basic, so you may want to add a plug-in daughterboard, such as the excellent Yamaha DB50XG to give yourself much better sounds. Or you may go the whole hog and buy a separate MIDI module, which would have sounds that are better still, but is a much more expensive option. Prices start from around £200 and go up to over £5000.

How rapid is rapid?

QI'm looking for a PC to use for word processing and maybe some basic accounts, and I can't help wondering if I really need a Pentium machine? Will a fast 486 do? Will it be fast enough for Windows 95?

The plain fact is that very few people need a Pentium. Unless you're a dedicated games player – games are actually the most demanding of PC applications – you could get by with an old DOS/386 machine. This is especially true for the kind of light office work you appear to have in mind.

The problem is, there's almost no one around today who will sell you a DOS 386 machine. In fact, you'll be hard pressed to find a 486. So here are your options...

Firstly, you could pick up a copy of Micro Mart, which lists thousands of second hand computers and other bargains. The problem with buying second hand is that you won't get any support and servicing can be tricky. You should also buy on a what you see is what you get basis – it can be much harder to upgrade an older machine than a new one. But if you can find something you like you'll be able to save yourself some money.

Alternatively, you can bite the bullet and get a modern Pentium. This will be fast enough and expandable enough for almost anything, and it will be able to run the latest software. But it won't be nearly as cheap. For your needs something like a P90 would be perfect – fast enough to do the job, but still cheap enough to be affordable. If you look around you should be able to get a P75 from one of the major retailers at just over £1000. A top tip if you're buying a machine with pre-installed software is to make sure you get discs containing the software as well.

Finally, you could buy an all-in-one word processor. Some people are perfectly happy with these. For around £300 you'll get something that edits and prints much like a PC, but is easier to use and easier to carry around too. Some word processors even include calculators and other handy features. Of course you won't be able to play Quake on it, but then again this may not bother you.

JPGs vs PCX

What's the difference between JPG files and PCX files? And which is better?

A JPG files (also known as JPEG – Joint Picture Experts Group) are compressed, and PCX files aren't. This means that big PCX images take up huge amounts of disk space. Look at the image below. As a PCX file it takes up over 3Mb. As a JPG, just over 400K.

The down side of compression is that it changes the image slightly. With the JPG format you can set the amount of compression. Full-on compression creates tiny files (17k in this case) but the image loses something in the translation, as you can see from the example below.



Here's a high quality photograph as a JPG file. It takes up just over 400K. Gorgeous colour and depth of field.



Here's the same file with maximum compression. Now it's around 17.5k – and completely unrecognisable.

GO FOR A FASTER, BETTER PROCESSOR

The superscalar, superpipelined 6x86 processor family ffers the highest level of performance available for desktop PCs today. ully compatible with the x86 instruction set, it is optimized to run both 16bit and 32-bit software, and delivers industry-leading performance running Windows® 95, Windows NT, Windows, OS/2®, DOS, Solaris UNIX® and

	6x86	Pentium Pro	Pentium
Full x86 Optimization	X		
Superscalar	X	X	X
Superpipelined	X	X	
Register Renaming	X	X	
Data Dependency Removal	X	X	
Multi-Branch Prediction	X	X	
Speculative Execution	X	X	
Out-of-Order Completion	X	X	
80-Bit Floating Point Unit	X	X	X
16K Primary Cache	X	X	X
			004.4

6x86 P166+: 901.4 Norton SI v8.0:

Pentium 166Mhz: 525.8

IEM	F
	F
TO A	F
ASS	F

£93 + VAT £109.28 P120+ P150+ £155 + VAT £182.13 £234 + VAT £274.98 166+ Coming Soon 200+

£119 + VAT - £139.83

Recommended

Motherboards

Supermicro P55T2S

430HX Triton II Chipset

Concurrent PCI

Interfaces, 16550 UART Serial ports,

page mode RAM

Gigabyte 586HX

Parallel port and FDD

 Supports up to 768 MB of EDO or standard fast

512k pipeline burst cache

£189 + VAT - £222.08

£154 + VAT - £180.95

Gigabyte 586ATS-2

£125 + VAT - £146.88

DFI G5861PC

 USB header · On-board dual EIDE

Writers and Media

Hewlett Packard 4020i

4x CD-Reader / 2x CD Recorder (Internal)

The best writer for home & small business use

- Make your own CD-ROM's & CD Audio Disks
- Ideal for archives, data distribution and backup
- · Supplied with Incat Easy CD, Easy CD Audio, SCSI interface & 2 CDR discs

£559 + VAT- £656.83

We sell a complete range of CD Writers - Please call for details

74 min Branded CDR Media

Price

Qtv £28.50 + VAT... £33.49 5 £56.50 + VAT... £66.39 20 £111.00 + VAT... £130.43 50 £272.50 + VAT... £320.19

WWW: http://www.linefeed.com

All prices include VAT. Delivery: £5 (Normally 24 hours) Saturday Delivery - add £3.

No Credit Card Surcharges SWITCH & AMEX also welcome

1765 474

BUDGET TITLES ALSO AVAILABLE FROM £6.00 - INTERNET, BUSINESS, GAMES, EDUCATIONAL

MICRONINE SOFTWARE
Dept (PCR), 11 Chapel Street, Rhydyfelin, Pontypridd, Mid Glamorgan CF37 5RG



Notebooks always in stock from as little as £199 Stock varies so ring for availability and prices! Ultra DX2/80mhz (20%+ faster than dx2/66)

8mb/630mb hard disk, 14" SVGA Colour, 1MB Windows Graphics Accelerator, Vesa local bus, mouse etc.

This is a real workhorse! £586 inc. vat

Ultra Pentium P100 with 8mb/1Gb hard disk, 14" SVGA Colour. 1MB Windows Graphics Accelerator, PCI, mouse etc.

799 inc. vat

Check this spec. then check the price, Wow!

Any system built to your exact requirements! Ring for a quote!

Need 16mb memory? add £99 inc to any system 4 x CDROM + SOUNDCARD/SPKRS: £125inc.



had the answer to all your storage problems? WELL HERE IT IS! Three Drives in One.

Fast back-up at up to 1.25 MB/sec. ast access time 28ms. Ideal for archiving large picture files. Try a separate disk for all the kids games/homework. 100mb disks only £15.29 Small & light, easily transfer work to other computers or your notebook.

No need to even open your computer!



Credit card surcharge 2.3%



PrimeraPro Dyesublimation printer.

Prints photographic quality prints from your computer up to A4 size at 600 x 300 dpi. Output is not dithered but printed in continuous tone

Output is not dinnered by printed in continuous torne colour in a glossy finish on special dyesub paper. Designed for the professional (cost per print £2.69) but also prints wax transfer full colour at 39p per page with similar quality to inkjet (for cheap proofs).



66a Eastgate, Hornsea, HU18 1LW.

Tel (01964) 535933 or (0585) 346462





ADULT CD ROM'S

-TITLES FROM £14.99-(18) We do NOT condone or supply illicit hardcore material. Please state 18 when ordering Adult Catalogue

to ADVERTISE in REVIEW CLASSIFIED

contact Jenny White on **01225 442244**

free design/typesetting service available

STRANGEWAYS B.B.S. 0891 408040

THE MOTHER OF ALL BBS's

62,000 Programs On-Line Gigs of ADULT Files Games, Business, Pleasure Speeds up to 34,400 MNP5

Live On-Line Chat Easy To Use System Exclusive On-Line CDs No Boring Questionnaires

Calls charged at 39p per min cheap rate, 49p per min all other times. CD International, PO Box 107, Manchester M7 3WZ

Outer Limits Bulletin Board

Adult Glamour Gifs, Jpegs, Movies, and a whole lot more!

Plus Members Only Club – Go online for details

Outer Limits, PO Box 67, Kidderminster, DY10 4YQ Calls charged at 39p/min (cheap rate) and 49p/min (all other times)

Music Software from £25 Notation Software...... from £99

Call for free catalogue

Miracle Piano Tuition Software £79

tech-mate

215 Harwich Road Colchester Essex CO4 3DF

FREE INFO PACK Call 01206 864994

E-Mail sales@techmate.demon.co.uk

77 01206 793355 FAX 01206 864994

Mega Download
Internet
Bulletin Board
0891 516 126

No Subscriptions

Full Download Access on your First Call

All Speeds to 33,600

Zmodem Ymodem Xmodem

New Files Daily

0891 516 126

Over 25,000 files for immediate download

Thousands of GIF files

World Wide Web

Usenet - FTP

Telnet - SLIP

Your own Internet email address

Super, Full Colour ANSI Graphics

Mega Download 0891 516 126

Mega Download, PO Box 3463, London SE19 1DB Calls charged per minute 39p cheap rate, 49p all other times

16900 BBS - 0891 616900

Modem settings: 8,n,1, ANSI (multi-line)

The only BBS you'll ever need – The only number you'll ever need!

OVER 25 GIGS OVER 100,000 Files!

Over 500 file areas. Including: DOS/Windows & NT/95 applications, games, utilities, flight, space, database, hobbies, ham radio, clipart, fonts, multi-media, OS2, finance, dtp, LAN, music, accounting, etc etc! — Too many to mention!

GIGS of image files! Incl: GIF, JPEG, AVI etc
GIGS of NASA/Space files: Photos, Text, Mission reports etc.

Subscriptions Available for Non-0891 access

Over a Thousand <u>NEW</u> and Updated files <u>EVERY</u> month!

Calls to 0891 616900 are charged at 39p per minute cheap : ste and 49p per minute at all other times. Media Presentations, 148 Carmelite Road, Harrow, Middx HA3 5NF, E&OE

Comp uturd Not yer bog standard BBS 089151612 FTP - Newsgroups - IRC 1000's of Files Games - Business - Win 95 Utilities - Household Glamour Gifs Graffiti Wall Comp uturd PO Bex 3460 Lenden 8E19 1DB Calls challeges at 359 run cheap rate. 49p min all other rimes

COMPUTER SOFTWARE SUPPORT LINE

Ran out of warranty, can't use the net Software not working, no need to fret Can't load your Windows, will not install Pick up the phone and give us a call...

If you have problems with your software let our engineers help you! No expensive insurance policies you may never use, just the cost of a call!

Telephone 0891 516290

All calls will be charged at 39p cheap rate, and 49p per minute at all other times.

HARDWARE SUPPORT AND MAINTENANCE ALSO AVAILABLE

ENTREPRENEURS AND BUSINESS PEOPLE WANTED

GOOD FULL/PART TIME MONEY MAKER USING YOUR PC

Write to: Mascot Marketing 330 North Road Darlington Co. Durham DL1 3BH

Please enclose a 1st class stamp for full details.

MOUSEMATS & T-SHIRTS CUSTOM PRINTED WITH YOUR DESIGNS

YOUR DESIGN, PHOTO, BITMAP OR WHATEVER YOU LIKE PRINTED ON TO A TOP QUALITY HEAVYWEIGHT FABRIC MOUSEMAT, IN FULL COLOUR - MINIMUM QUANTITY JUST ONE. !
T-SHIRTS, MUGS, CAPS, CLOCKS, BADGES, FRIPGE MAGNETS AND LOTS MORE AVAILABLE - MIN. QTY FOR MOST GOODS IS JUST ONE ALL MAJOR PC GRAPHICS FILE FORMATS ACCEPTED. FOR BUSINESSES WE ALSO PRODUCE AFFORDABLE HIGH QUALITY SCREEN PRINTED PIC MOUSEMATS WITH A MINIMUM ORDER OF JUST 100, AND FREE DESIGN SERVICE ON ORDERS OF 250- (IF REQUIRED). MOUSEMATS MAKE THE BEST PROMOTION FOR ANY BUSINESS! ALL MAJOR CREDIT CAPEN ACCEPTED. FOR MORE INFORMATION PLEASE SEND A LARGE (57P IST, 38P 2ND) SAE TO:

DEPT PCR896. MEDIATEC LIMITED, PO BOX 738 LONDON, SWIP ITY OR CALL/FAX 0181 286 4037 (24HRS)

OR E-MAIL: MEDIATEC@DIAL.PIPEX.COM

FREE GAMES! TRY 20 OF THE BEST PLAY-BY-MAIN GAMES WITH OUR SPECIAL FEATURE

the roleplaying magazine

it's still fun down below

Get back to the dungeon for the time of your life

News exclusive

Traveller is born again and it's better than ever, Full details on page 8 Get it right first time

Keep characters simple for better roleplaying

Pendragon

The classic medieval RPG is back, but is it still the best?

NCES d: The best expansion expansion expansion

lt's deep space time with our cosmic 11-page pull-out

the stars

Nights: 11-page pull-out Encounter

SECRETS REVEALED!

Great new ways of using magic in your fantasy campaigns

ON SALE IN NEWSAGENTS NOW £3

Chameleon BBS

Quick time movies Adult gifs / jpegs Online Games Shareware win / dos email

0891 517427

Instant Download with first connection all nodes pc/mac/amiga compatable at 28,800 bps

0891 Calls charged at 39p Per min Cheap Rate 49p Per min all other times.

Control your own computer people in this friendly neighbourhood god game

powers to influence the way characters feel about Backwater and

the other Citizens. The various

influences are based loosely on the

Seven Deadly Sins and the Seven

Virtues. You must combine powers wisely to make the characters feel happy, sad, romantic, hungry, sociable, angry, etc.

fanatic. If you also increase Joe's dishonesty he'll not have any qualms about indulging his newly lecherous

The first screen in the tutorial would normally enable you to choose a difficulty level and enter your name.

These options are not active so exit this screen (click the icon in the bottom right). You will now see an animation depicting winter changing to spring. After this you are shown the title of your current experiment and the characters involved are displayed for

you to see. Moving the cursor over a

name. Click in the bottom right of this

screen and you will be presented with the open Backwater Book. The

message page will be displayed and

Minimum system: 486/66, 8Mb RAM, double

you're into the game.

Developer: Microprose

Contact: (01454) 894 298

Publisher: Microprose

speed drive, SVGA.

character's head will display their

personality.

For example, Joe and Anna are happy together. That is until you boost Joe's lust, and turn Anna into a fitness

Character Bar Left click on a character to centre on him. Right click to lock onto that

Thought bubble Indicates citizens current motivation.

Information Bar Provides you with eedback on a curso selected object.

Cosmic Balance Shows you the curren state of the cosmic balance.



Character Traits Clicking blue wil up the positive traits. Clicking in the red will up negative traits.

Brain Wave Compares level: current needs

Character Clicking in the ncreases need

Object Grabber Shock character or pick up an object.

Book Click here for the BackWater book.

lying in with our Alife theme, this demo brings puts you in control of a town full of Citizens. They'll live, make love and die of their own accord. Following a fatal car crash, you get a second chance in the afterlife as guardian of the town Backwater

You hold the populace between

Heaven and Hell in Citizens.

- a town set up by Celestial Development Inc as a model to modern society. Your job is to carry instructions while preserving the

Anyway, you must use your

demonstrate the effect of good acts on cosmic balance.



It's difficult to find a motivation that will get Fred to shave.



To discover your current task, check the messages in the Backwater Book.

CONTENTS

COMILLIA
3D Studio Max Samples Stunning images that really show off the power of this professional graphics tool101
Artificial Life Collection To complement our Alife feature: Boids, Primordlal Life 3.0, Trophy Bass, FORM and WinLife
Bermuda Syndrome Flashback style platform adventure99
Citizens Remember Little Computer People? Well, this God game brings the up to date. Play our exclusive demo
Connections Join host James Burke in five multimedia puzzle games104
Cubase Score 3.0 Exclusive working version of the top MIDI recording and publishing software102

Digita Organiser 1.0
Complete personal information manager. No
limitations. We give you the works! 10
Digital Studio
Make music with this MIDI demo10

Discover Astronomy Find out how the universe began 100	4
Essential Selection The files you just can't live without103	5

Fuzzy Command
Our retro game of the month takes Missile
Command and puts the Muppets inside

Guitar Tutor 3.0	
Learn your chords with this shareware	103
Olympic Games	

Try two events from the Olympics – skeet	
shooting and weight lifting	8
One Minute Guide	
For authoring your own CD-ROMs12 & 10	1

Origins of Mankind	
Complete section featuring the Neanderthal	
man. Exclusive	7

Doutoet Blant

A guide to caring for your plants	77 & 104
Poster 3.0	
	400

mandy snareware program	
PowerDesk 1.1	
Make Windows 95 do as it's told	

Pray for Death	
Playable demo of the latest 2D beat-'em up	.99

Quake	
Complete shareware episode the Di	mension o
the Doomed, plus QuakePatch 0.92	6 & 98

Raw Materials	
Clip art, photoCD images and fonts	105
Scala Show and Tell	

Scala	Show	and	Tell		
Massive w	orking der	no		,90 &	100

SFXCD		
Preview of the latest CD magazine		.104
ShellShock		

Climb in	your ta	nk aı	nd b	low	stuf	f up i	in th	is	
playable	demo								99
Ciloni	The								

Silent	Thunder					
Gorgeous	A10 Tank Killer demo					.99

Stui	111		
Compl	ete versi	on of this han	dy decompressio
utility .			

Truckology																					
Truckasaurus com	e	s	t	0	١	/C	ìι	ır	F)(0	iŧ	1	tl	hi	s	n	nc	or	ıs	te
multimedia demo																				.1	0

Huckasaur	us com	es.	w	you	FC	III UII	s monsie
multimedia	demo						104
Virtua	Figh	te	r	Re	mi	×	

erator required51	& 99
WordExpress 2.0	

Fully working shareware word processor	10
Worms	
Playable demo and extra levels for the act	ion

game with grubs in99

Quake and QuakePatch 0.92a

Yes. We couldn't bring you the public test version of *Quake*. Instead we bring you the shareware version. The full monty, a complete seven-level demo. And boy does this baby burn! We guarantee that the first time you shoot a zombie, only for him to roll over and back up again, you'll run to the other side of the room and gibber uncontrollably.

We've been playing this version on a Pentium 133, and we turned the video resolution up via the Console option (Vid_mode 10) for the full deathin-the-dark experience. Everything about the game oozes class - from the gasps as you emerge from the water to the time delay on the lobbed grenades - and the rest of the game just oozes. Make sure you check out our covermounted guide to all the secret levels and items. We reveal every cheat code, turning you into a god and giving you full access to the dread lightning gun.

Best of all though, we bring you the patch - to upgrade you to version 0.92. That means you'll suffer none of the quirks and glitches you'll find in some of the earlier copies floating about. Network support is in there too - unlike Doom shareware - check our the massive Readme file for details on this.

The finished game is still a couple of months off, but if this is anything to go by it's going to blow the hype out of the water. From a distance, it looks like Doom... but it plays like Armageddon. Developer: ID Software Publisher: ID Software Contact: support@idsoftware.com Minimum system: Pentium, 8Mb RAM, CD-ROM, 30Mb hard disk, VGA, MS-DOS 5 or Windows 95.



Deathmatch Quake, No-one's tougher than your mate.

Olympic



Don't just watch the Olympics - get off your couch, power up this demo, then sit back down again and compete for yourself.

uro 96 may be a fading penalty shot but the 1996 Olympic Games promise to be the biggest, the baddest and the most dollar-hungry yet. The games are heaven for armchair sports-fans, though for the man in the street, interaction is traditionally limited to betting his mates that he can do the four minute mile, half dying in the attempt and then whining that no-one breaks on the bend like Coe anymore.

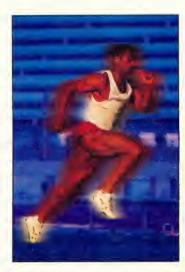
US Gold hopes to better meet our athletic urges with its official Olympic Games title. To get into the spirit, we've brought you two events on our CD: weightlifting and skeet shooting. Gameplay will be familiar to anyone who's ever played the old Track & Field coin-op or Summer Games on the C64, with button bashing very much the order of the day.

First up, skeet shooting. Before anyone calls the RSPCA, a skeet isn't a species of exotic arctic beastie, but rather the American term for clay pigeons. You negotiate a series of stations taking pot-shots at the skeets from a variety of angles. You're judged on accuracy, so steady those nerves. On the other hand, Weightlifting is about speed and technique. There are two bars on the right hand side of the screen - a blue one and a red one. Rhythmically

bash button one and two like you've never heard of RSI and when the two bars match, hit the third button. You'll need to negotiate three stages to lock your arms in the air.

We wanted to bring you the demos in time for the Olympics proper - and they came straight from US Gold via motorbike to our discso as you'd expect they're a little rough around the edges. The complete game will include 15 events and feature commentary by Radio 5's Alan Green.

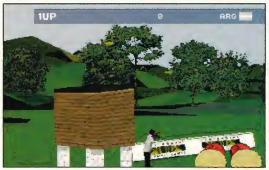
Developer: Silicon Dreams Publisher: US Gold Contact: 0121 625 3366 Minimum system: 486, 8Mb RAM, 3Mb hard disk space.



Key Controls

You can change these keys by editing the config.ini file created in the

installation directory SDOLYMPC.	
Player 1	Player 2
Q=Up	Cursor Up=Up
A=Down	Cursor Down=Down
Z=Left	Cursor Left=Left
X=Right Cursor Right=Rig	
C=Button 1 Ins=Button 1	
V=Button 2	Ctrl=Button 2
B= Button 3	Enter=Button 3
F1=Pause	F9=Pause
F2=Select	F10=Select



Skeets look like frisbees, so there's a moral imperative to blow them out of the sky.



And little does the Argentine know that we've glued the barbell to the floor...

Gender Wars

The age old battle between men and women comes to bloody life in this strategic stomper from SCi. Our demo has a reduced set of operations and some pre-sets to get straight to the action without delay. It includes two missions - one for the male players and one for all you females.

Developer: SCi Publisher: Funsoft Contact: 0171 585 3308

Minimum System: 486, 8Mb RAM, 10Mb hard disk



Guys always get the bigger guns.

ShellShock

It's the future and anarchy reigns. You've joined a radical tank force dedicated to keeping the peace in New York state. In our demo version you take part in a hostage rescue mission, so you'll be careful where you point those guns now won't you?

Developer: Core Design Publisher: Core Design Contact: 01332 297797

Minimum System: 486, 8Mb RAM, 5.5Mb hard disk space



Outnumbered in Shellshock.

Chaos Overlord

Play the bad guys in US Gold's latest gangland wargame. The future is a battleground between the Lords of Chaos. People, property and even pets are pawns in your quest for ultimate domination.

Developer: New World Computing Publisher: US Gold Contact: 0121 625 3366 Minimum System: 486, 8Mb RAM



The future shocks in Chaos Overlord.

Pray for Death Virtua Fighter

Through time and space the finest warriors have gathered for the ultimate bust-up - and two of them even made it to our coverdisc. Angel fights demon, wizard fights warlord and you fight anybody who's hard enough. In this case, Painbringer the robot.

Developer: LightShock Software Publisher: Virgin

Contact: 0171 368 2255 Minimum System: 486/66, 8Mb RAM, 15.5Mb haro



It's beast against beast in PFD.

Silent Thunder

Our Silent Thunder demo simply gives you a sneak preview of one of the worlds from the game, but it should help you get a taste of the full product. Be careful of enemies on the ground, watch out for SAM sites and beware of the HIND that is heading your way...

Developer: Dynamix Publisher: Sierra On-Line Contact: (01734) 303322

Minimum System: 486DX/66, 8Mb RAM.

Windows 95



One tank is about to die.

Worms

Worms is a strategy game with a difference. You control your four worms and wage war with up to three other teams. You must try and use the weapons at your disposal in the best possible way - or at least to the most devastating effect. The demo features two landscapes and bags of weapons too. Developer: Team 17

Publisher: Team17 Contact: (0)1924 267776

Minimum System: 486, 8Mb RAM, 3Mb hard disk



Worms: deadlier than a blackbird.

Remix

Our demo of Sega's revamped beat-'em-up puts kick-girl Pai Chan head-tohead with rugged Jacky Bryant. You have complete access to the full game's array of special moves.

Developer: SEGA Publisher: Segasoft Contact: 0171 373 3000 Minimum System: Pentium, 8Mb RAM, 11Mb hard disk. Windows 95



And here's a shot from the full game.

StarFighter

Not only does the mag 3000 include a full review of this top new 3D shoot-'em-up from Telstar, we're also giving you lucky folks an opportunity to try the game for yourselves. Just shoot everything and be sure to collect those crystals. Developer: Krisalis Software Ltd

Contact: (01932 222232)

Minimum System: 486, 8Mb RAM, 1Mb Hard Disk



Typical mayhem in Starfighter 3000.

Bermuda Syndrome

You're a WWII pilot shot down over the Bermuda Triangle. Dangling from your parachute, you open your eyes and realise you've travelled back in time.To get moving in the demo, press [F1], grab the knife, and go to it. Developer: Century Interactive Publisher: BMG

Contact: 0171 973 0011 Minimum System: 486, 8Mb RAM



Kill the tribal dude, lose the girl.

CD REVIEW

Retro game of the month Number 3

command

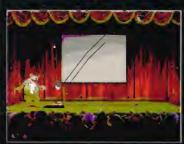


Microsoft Arcade features a coin-op perfect version of Missile Command.

ot many people know that the idea for Missile Command began with a magazine story about satellites that captured the attention of Atari's president, who passed the clipping to the developers. Even fewer know the game was nearly titled Armageddon carrying the message of the end of the world, a suggestion that was only rejected on the grounds that no-one would know what it meant. Many more people are aware of what an instant hit Missile Command became in the arcades back in 1980.

With Missile Command came an instant cult following - players spent hours saving the planet. Like Centipede it featured a trackball to control your target. Three fire buttons controlled the surface to air missiles which burst in the sky, erupting outwards to take out the incoming enemies - bombers, satellites, missiles and smart bombs all out to flatten civilisation. The shadow of nuclear war in the 80s reflected its chilling messages and predictions. Who can forget the sinking dread as that final cloud of doom descends as 'The End' filled the screen?

On a lighter note, CD Review features the Muppets Inside version of Missile Command (reviewed last month). Fozzie Bear... the planet Earth... they're all the same really!



Cheer up. Here's a soft toy to banish your fears of nuclear annihilation.

CD REVIEW

Scala MINITOO

Scala is the application that brings multimedia to the masses, so in a touching display of irony we're bringing Scala to your good self...

ultimedia isn't just another computer fad - it's becoming a way of life. By presenting information in an exciting way you instantly grab people's attention.

Add an interactive element, where the viewer participates in what's on the screen, and it instantly becomes more stimulating. Çue Scala – a program which lets you design your own multimedia work, tailored to your needs, using your own images and sounds if you like.

Scala walkthrough

Our 100Mb demo is a mere sample of the full product, but it has everything you'll need to create great full-screen multimedia presentations. Images, clipart, animations, wave files, MIDIs, and several professional examples – including games – are yours to tinker with.

Before following this guide, it's

Before following this guide, it's assumed you have configured *Scala* to your liking from the Tools/Options button on the opening edit screen. In this demo script saving is disabled.

Secretal any Property of the secretal and the secretary and the se

Run the program from DOS or Windows. Every script begins with a background, so click the Add button, and from the Backgrnd sub-folder in the Scala directory, select green032. bmp image and click OK. To see miniature versions of images before loading, click on the Shuffler toggle, at the bottom of the screen, which looks like a fanned out deck of cards.



Once a background is loaded, Scala takes you to the text design screen. To colour text, background and shadow and even line art, click on a palette colour, then on the colour swatch in the appropriate button. Toggle a style by clicking on the button. The initial text here uses SfranklinN at 36 point, chosen via the Font button.

The

Norton Antivirus

From the very earliest days of the PC, Peter Norton was there with his disk utilities. His programs were straightforward to use, and so comprehensive that eventually someone liked them so much they bought his company. But the Norton name lives on, recovering disks after head-crashes and protecting us from all kinds of software eating beasties.

We're proud this month to bring you a working demo of *Norton's Antivirus*. It may not give you the protection of the full product, but if all you've got between your hard disk and the nasties out there is our demo, you should be very grateful. It will scan executable files for viruses, remove boot infector viruses (viruses that infect boot MBR or boot records) and give you an overview of the full

Norton AntiVirus program. This version will not repair infected files and does not provide an automatic monitoring program. Check out the Readme file for full instructions.

The complete version of Norton AntiVirus is a comprehensive solution for preventing viruses from infecting your PC. It detects and removes over 5,300 known viruses and virus strains. In addition, it protects against unknown viruses by monitoring your system for irregular file activity. Should Norton AntiVirus detect an infection, it can repair most infected files quickly and easily before the virus damages your system. Norton AntiVirus is available for DOS, Windows 3.1 and Windows 95.

Developer: Symantec Corporation Contact: 01628 592222

Minimum system: 386, 4Mb RAM, 6Mb hard disk





Click on screen and type in your text. Then select it by clicking and dragging a rectangle around it. You can select multiple items this way, and once selected, any attribute can be changed — colour, outline and so on. To add an effect to the text, click on the IN button, and choose a transition. We've used Vortex in the Alpha styles. Click on Preview for a taste of the effect. Click OK to return to text edit mode.



Press [F3] to access the Clips menu Click on the Clip bar (above Edit) to load in an image, and using the Shuffler view, select 1 ovlrigh.bmp, which is a speech bubble in the Scala\Clips\Bubbles sub-folder. Drag the image into position. Right click the mouse button for a full-screen view. Click the IN icon, and from the list of styles, scroll down to find Fly On. This will animate the image over the screen.



Press [F2] to return to text edit, and add another line of text – this time in SfranklinN at 18 pt, which says Click me, and position it below or over the speech bubble. Click on the bubble clip to select it, and press [F6] to go to the button definition menu. Click on Button:Not a button, and select Normal



+ Select; this allows you to edit actions to be taken after the button has been selected. Press [F12] to toggle between states, and stop on Select. In the Hotkey box, type in a letter of your choice which, when pressed, will activate the button just as a mouse click would.



Works

Digita Organiser 1.0

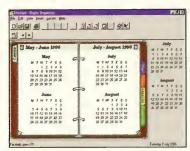
Here's a real treat – an organiser with a calender, diary, addresses and task lists. Amazingly, you get all this for just 3Mb of hard disk space. This preview version does everything the full product does, but it keeps asking you to register on start-up. Registration is free, so why not?

Digita Organiser is a Personal Information Manager (PIM) – it helps you organise your life. Organiser is different in that it looks like a FiloFax, complete with pages and 'tabbed' sections. There are five sections: Calendar, Diary, Tasks, Address Book and Supple-ments. Organiser is extremely simple and intuitive to use yet has enough power to satisfy the most serious of users.

As a start, try adding you birthday to the diary. Select Diary Event from the

Insert Menu and type the date of the birthday into Start. Then type your name into Description, click the Repeat tab and set Repeat Every to "1 Year".

Developer: Digita Contact: 01395 270273 System Requirements: 486, 4Mb RAM, 3Mb hard



Click on the Calender tab to display the calender section.

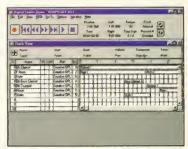
Digital Studio

Digital Studio is a MIDI sequencer that allows you to record, edit and play MIDI data (but in the demo you can't save). As you might know, most modern music that doesn't feature a guitar nowadays is put together using MIDI data. In Digital Studio the basic unit of music is called the segment. A segment can be moved, repeated, split, combined with another segment or copied.

A segment can be edited in various ways. The Score View allows you to edit in standard music notation. The Piano Roll View displays the notes as rectangles on a grid. The Drum View is similar to the Piano Roll View except the notes are displayed as diamonds. To display a view highlight a segment in the Track View by clicking on it and then choose a view from the View Menu. Any changes made in these

views will also be made to any other instances of the segment. There's more to *Digital Studio* then we could ever hope to cover here, so you're best bet is to install the software, and then get stuck into exhaustive help file.

Developer: AMC Software Contact: 100766.1077@compuserve.com Minimum System: 486, 4Mb RAM, 1.5Mb hard disk

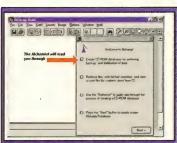


Go from Jungle to the Dukes of Hazard, via the demo's rhapsody scores.

One Minute Guide

expert on the new medium of writable CDs in double-speed time. Recordable CD-ROMs have been available for a while now, but they are finally set to crash into the budget of the average home user. You can just imagine what you'll be able to accomplish with them. From backing up your music and game collections, to becoming a shareware publisher and even on to the dizzy heights of multimedia development, writable CD-ROMs will change the way you use your PC. Read this guide now and be there first.

Developer: Hewlett Packard Contact: www.hp.com Minimum system: 486, 4Mb RAM, double speed CD drive



From PC to CD, writable compact discs are coming our way.

3D Studio Max Samples

The.AVI file within our demo gives you a sneak preview of what's possible with Biped and Physique - the two Plug-In Components of 3D Studio Max that comprise the Character Studio. CSTUDIO.AVI demonstrates how Character Studio brings three aliens to life. The skeletons of the three dancing aliens were choreographed using Biped. The alien meshes (from Viewpoint Data Labs) were linked to the Biped armature with Physique, which then controlled how the surrounding skin moved and flexed with the Biped skeleton. Motions were easily cut, pasted, and adjusted between the

aliens to co-ordinate their dance. Try it.

Developer: Kinetics Contact: www.ktx.com System Requirements: 386, 4Mb Ram



Sculley, take a look at this. Dancing aliens rendered in 3D Studio Max.



Click on the Variable button. Here's where you control your script. In the Set Variable requester, type in PCR= "your text message". OK that, and when the definition requester pops up choose Text. Right click the mouse to clear edit bars. Where you want your message to be displayed, type this IPCR. No spaces, no quotes, no full stop. When the script runs, your text will be printed down there.



The demo is save disabled so you can't save your animation. Still, you can view a single high resolution screen. Make sure you're in the camera view window, go to the frame you want to see and click the expand button at the top of the window. Select the magnifying glass, then drag an outline



around the bat and ball to zoom in.
Release the button and click Final
Render to Screen from the Render



Back to the main edit screen, click on the Timing bar of screen 1, enter 9 as the pause in seconds delay by scrolling through the Wait for... button. Click on the Wipe bar of page 1 and select a screen transition as you did for text. If you have a Soundblaster compatible card, add a MIDI file here too by clicking on the Sound button and selecting a file? Now you can Run the presentation and start your next one.

GD REVIEW

Cubase Score 3.0



If you want to make music with your PC, there's arguably no better way than with Cubase. Steinberg, the developer, calls it the complete integrated music recording and publishing software. We call it one fab sequencer with more features than a multiplex cinema.

ince Steinberg in Germany first created *Cubase* in the 80s, the software has become almost synonymous with music-making and computers. *Cubase* – principally a sequencer, or 'tape recorder' for storing information about musical notes and directions – started life on the humble little Atari ST, quickly gained a reputation for its power potential and ease of use, and became the de facto means of recording and arranging MIDI-based

music for many musicians. Now in 1996, several forms of *Cubase* exist across ST, Mac and PC platforms.

What makes Cubase so appealing? Nominally it's the superb Arrange window which shows clearly the structure of a song and which instruments are playing and when. Behind this juicy front end is a wealth of functions and features. There are several ways of correcting timing errors (quantizing) or, looking at it another way, adding grooves to your work. Note information can be edited in several different ways; professional DTP sheet music can be written and printed; and now, with Cubase Score 3.0, up to eight tracks of digital audio can be played alongside the MIDI data. Powerful, expressive and creative stuff? It certainly is.

So here's a demo of this ripper package complete, apart from the save option. Below is an eight step guide to help you take those first few steps into music, MIDI, muting and Match Quantize. You don't need any acquired knowledge of music notation, you don't even need an external MIDI keyboard. Just a little imagination... And maybe our walkthrough to get you started.

The Toolbox



Access this bar from the Arrange window.



Arrow: for selecting things.



Eraser: delete Parts with this tool.



Match Quantize: match the rhythm of one part to that of a second.



Scissors: split one Part into two or more.



Magnifying Glass: scrub along a Part to hear the notes written there



Pencil tool: create and change the shape of Parts.



Mute: turn off Parts temporarily.



Glue Tube: stick 'scissored' Parts back together with this.

Share

Powerdesk 1.0

PowerDesk is the ultimate in desktop accessories. It's an enhancement utility for Windows 95.

The PowerDesk package contains two incredible utilities that will immediately make you more productive in Windows 95: PowerDesk Toolbar and ExplorerPlus. In fact it's so good it's being nominated for the industry award of Best Shareware Title.

Once installed the Toolbar appears on the top of the screen and lets you get straight to the Windows features you want without any fuss.

ExplorerPlus is an enhanced file management and file navigation utility.

ExplorerPlus extends the capabilities of the Windows 95 Explorer, and yet it still works in the same way, so you don't have to learn a new user interface.

Publisher: MicroHelp Contact: 1-800-922-3383 Minimum System: 486, 8Mb RAM, 1.5Mb hard disk. Windows 95.



Teach Windows 95 who's boss with PowerDesk 1.0.

WordExpress 2.0

If you don't have a word processor, look no further. WordExpress 2.0 offers the best value word processor you'll get for your money. It only costs £39 and offers all the features you'd expect from a serious piece of software. We're bringing you the very latest version of this award winning application.

WordExpress 2.0 is perfect for executives, students, home offices, or anyone looking to write without having to memorise confusing keystrokes. It installs in the smallest footprint of any Windows word processor, making it ideal for laptop PCs. Top of the line features include WYSIWYG editing, fonts, columns, pictures, tables, spell checker and more. WordExpress is great for small desktop publishing tasks too.

Developer: Micro Vision Publisher: The Thompson Partnership Contact:01889 564 601 Minimum System: 486, 4Mb RAM, 3.5Mb hard disk space. Windows 3.1 or 95



The time-limited WordExpress gives you handy tips while you work.



Install the software through the CD Review menu and once you're in, click on the Track 1 box in the Tracks column and name your instrument. Piano isn't exactly daring, but it's good enough for now. Move to the Part Info column on the left, and select Grand Piano. In the Arrange Window, double click between the pointers, and a Part appears.



Double-click on that Part, and the Edit window appears. This is where the creativity begins. Using this window you can enter notes without the need for music theory or an external MIDI keyboard. Make the Toolbar appear with the right mouse button, and select the pencil tool. If you look to your left you can see what each of the other tools do as wall.



Changing the Snap and Quantize values to 8 means you'll be writing in note units of an eighth (quavers for the musos). Now draw some notes onto the score graph, scrolling up and down for the full range.. Try and stick to the white ones (notes are illuminated on the left hand side as you select them) for the most musical, if not a little primitive, results.



Ware

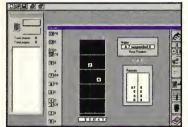
Guitar Teacher 3.0

Guitar Teacher may not offer to turn you into the next Jimmy Page, but it's a great system for displaying, studying and printing guitar-chord diagrams.

The program features seven chord formulas: major, major 7, minor, minor 7, 7, suspended 4, 7 suspended 4th and six alternatives for each chord. It has 504 chord diagrams. Formula and voicing displayed, right- or left-handed fingering, save and print chord charts, includes a guitar tuner and instruction on tuning and chord structure.

Register for the full version and you get Guitar Pro which offers features to meet the needs of the serious guitarist. Nineteen chord formulas are provided with up to 15 alternatives for each chord. This adds up to a maximum database size of 3,420 chord diagrams.

Developer: Celista Software Publisher: Celista Software Contact: Celista@netshop.net Minimum System: 486, 4Mb RAM, 2.5Mb hard disk,



Observe the finger positionings on the fretboard to learn your chords. Rock.

Stufflt Expander 1.0

simplest way of unzipping any kind of compressed file for Windows 3.1 or 95 that we've yet come across, and it's absolutely free. Just install it to your hard disk and then click on the new Stuffit icon. A box will appear on your desktop. Whenever you want to unzip something just drag it into the box. It's as simple and wonderful as that!

Stufflt Expander expands seven of the most popular compressed and encoded formats: Stufflt (.sit), Zip (.zip), Ari (.ari), Arc (.arc), gzip (.gz, .z), uuencode (.uu, .uue), and BinHex (.hqx). It also supports Stufflt, Zip, and Arj self-extracting archives (.exe, .sea), and Macintosh files in MacBinary (.bin) format. That's probably more formats than you even knew existed.

Developer: Aladdin Systems Publisher: Aladdin Systems Contact: US (408) 761 6200 Minimum System: 486, 4Mb RAM, 1Mb hard disk space



Decompress Stuffit compressed Mac files on your PC.

Poster 3.0

Here's a little gem. Stufflt Expander is the Poster 3.0 is a popular Windows program for making big posters, signs, and banners. Posters can be up to nine feet by nine feet. Poster combines the best features of word-processing, graph- Life screen saver which transforms your ics, and DTP software that are especially tuned for big posters and banners. This includes complete flexibility in the placement of graphics, a full set of drawing tools and over 100 special effects (like 3D, rotate, and arch) for text.

All text and graphics are enlarged and tiled over multiple pages. Poster supports all True-Type and ATM fonts, and imports graphics like BMP and WMF files, as well as from the Clipboard and OLE applications. The program supports full colour, and most Windowscompatible printers. But have a few sheets of paper on hand, eh?

Developer: Bob Bedoll Publisher: Poster Software Contact: (206) 848-0467 - PosterSW@aol.com Minimum System: 486, 4Mb RAM, 2.5Mb hard disk

Here's my fi Poster!

Print huge posters bigger than your screen with Poster 3.0 by Bob Bedoll.

A-Life collection

To accompany our ALife feature we've got a superb selection of programs for you to play God with.

First off there's the great Primordial desktop into a breeding ground for simple life forms. You can elect to feed or kill different organisms with a few mouse clicks. Over time you'll breed an impressive range of life forms.

Boids reproduces the patterns of birds in flight. All the birds of the same colour will stay within a certain distance of one another. You can alter this distance for interesting effects. Trophy Bass at first looks like just a fishing game, it contains an simulated lake, so we've included it here. WinLife is Game of Life. You create organisms from just a few cells to see if they can to survive. Load up the example files to see what's possible. FORM is superb 3D rendition of a similar theme, again there's lots of example files to load. See page 65.



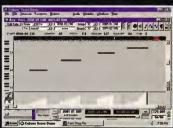
I toit I toi a boid! With Boid you can fiddle with natural flock movement.



Close the window and create another part. Let's go for a groovy Slow Bass this time. Heavy! Select the Scissors from the Tool Bar, and make a cut after one bar of the Piano Part. Holding the [Alt] key, drag that bar down on to the Bass Track. Now in Edit, grab the Eraser and thin out the line to just a few notes. Now we've got two instruments pumping a beat.



Find Legato in the Functions menu. This smooths the gaps between notes. Rubberband the notes and drag them down an octave (to C3). Close the window and hit [Ctrl] + [K] to bring up the Repeat function. We'll take three copies, please. Glue them together (Glue Tool), then back to Edit for this picture. Better change the name of the Part to Slow Bass, too.



Another Track, another Part. Let's try some arthouse pseudo-random percussion rolls. With a drum sound selected, use the Brush Tool to drop lines of notes (change the Snap and Quantize to something high). Bring up the Velocity levels graph (hit the Control button, bottom left hand corner) and draw in dynamic changes with the Pencil.



And so you continue: create new Tracks, pull Parts around, experiment and see what happens. There's lots of power we haven't even touched on: Quantising notes to weird grooves, Reversing phrases, adding other Controller messages like modulation and pitchbend, and all without the aid of an external keyboard. Piano lessons? Pah! We're rockin'.

MULTIMEDIA

Truckology

Our fully interactive demo features the VR-quarry from the full version, where you can explore the Kamatsu PC1600 Hydraulic Excavator.

Once in the quarry you can use the direction icons from the control bar to move about and the + and icons to zoom in and out. When



Play around in the Kamatsu PC1600 Hydraulic Excavator.

you've finished enjoying the view click on the excavator. There are various hotspots to find, but if you click on Help all the active hotspots will be outlined, so you won't miss anything. Developer: Maris

Publisher: Maxis Contact: 0181 943 439

Minimum System: 486, 8Mb RAM, double speed CD drive, Windows



Truckology has everything a young truck driver needs to know.

Connections

Based on the hit 70s TV series of the same name featuring James Burke, this adventure has some incredible mind bending puzzles to solve. The game jumps between puzzles in the same way that the TV series ran rough-shod through the pages of history, linking ideas and inventions



Egg head James Burke is your host for this mind bending adventure.

which have shaped our time.

You'll need a run-time copy of QuickTime for Windows installed before you run the demo. It's available in the Essentials section.

Developer: Discovery Channel Publisher: Astrion
Contact: 0181 202 0011
Minimum System: 486, 8Mb RAM, double speed CD drive. Windows



Travel the world and walk through the pages of history with Connections.

SFX-CD

Britain's most popular science fiction magazine has now gone interactive with this quarterly CD-ROM. Music, movie footage, photographs, and atmospheric sound and graphics take the CD-ROM magazine a step



Follow the ice corridor into the mysterious world of SFX-CD.

closer towards becoming a workable concept. Hurrah.

The premiere issue features
Doctor Who (where he's been and
where he's going), Twelve Monkeys
(a full review), Hackers (the new sci-fi
movie), and exclusively previews
extracts from the works of SF writers
Patrick Tilley and John Barnes.
There's also (surprise, surprise) a
Star Trek feature on the 30th anniversary events, plus a specially created
Star Trek archive. You can find out all
about it with the great preview on CD
Review.

Developer: PNE Publisher: PNE Contact: 0171 331 3920 Minimum System: 486, 4Mb RAM

Discover Astronomy

The universe is a big place, and many discs have already tried to help you explore it, in particular the famous *RedShift*. Unfortunately these discs often assume a lot of background knowledge, leaving budding



Take your first steps to being a fully fledged astronomer.

astronomers fumbling for their calculators, instead of soaring to new heights of discovery.

Aware of this problem Maris Multimedia has produced *Discover Astonomy*, which aims to deliver you the universe without all the calculations and complexities.

Our fully interactive demo features a huge movie explaining the Big Bang theory, and also lets you explore the Andromeda galaxy, the only spiral galaxy visible to the naked eye from Earth.

Developer: Maris Publisher: Maxis Contact: 0181 943 439 Minimum System: 486, 4Mb RAM

Perfect Plants

Everything you need to know about plants is in the full version, but our huge demo has lots to offer too. For example, in Garden Tours go on a serene stroll around an English cottage garden. In the plant care section you'll learn how to propagate



This hardy perennial is one many plants that can't wait to meet you.

your daylilies and prune your Abutilon and Hybrid tea roses, plus much more. Install Quicktime before running this demo.

Developer: Macmillan Publisher: Macmillan Contact: 0345 697 008 Minimum System: 486, 4Mb RAM



Join Roger Phillips for a leisurely stroll around an English garden.

Origins of Mankind

Most people assume that Darwin got it right with his theory of evolution. Whichever theory you subscribe to, our origins remain a fascinating subject. This disc documents our evolutionary changes via a comprehensive time line. In the full version you can also accept missions to go on archaeological digs. There's also some cool morphological transformations to view and paleontological discoveries to be made.

Our exclusive demo lets you find out all about Neanderthal man, our distant, low browed cousin who mysteriously disappeared around 30,000 BC. You can visit a Neanderthal camp site, find out about the first Neanderthal discovery in Germany and compare a Neanderthal and Homo Sapien head with full 360 degree rotation.

Developer: Maris Publisher: Maxis Contact: 0181 943 439 Minimum System: 486, 4Mb RAM



A puffy face, large nose, non-existent chin, plays for the local RFC...

Raw materials

Want to get your hands on some great free graphics? Every month, in conjunction with DVS UK (tel. 01908 371999), we're giving away a selection of top art resources for you to keep. We've cleared the royalties so you can use them wherever and as often as you want.

This month's selection includes 12 PhotoCD images, 12 fonts and 12 clip art pictures. You'll find a selection in the PSC directory which includes three directories, PHOTOS, CLIPART and FONTS. The Bluebird Corporation distributes DVS titles directly, and has stacks of clip art, fonts, images and software. They're in good retailers priced at £14.99 or you can contact Bluebird directly on 01908 27707 for a free catalogue of their full range.

Animal2

AAABBB CCCD DD EEEFFFGGGHH

Photos (filenames as per captions)





Backgamn





Bathroom Bublebth





Cross

Change

Clip Art





ABS-02







Dance02

Eastsocr







Island

Jamaican

Hand01

The menus

Windows 95 users.
The coverdisc is simple to run in Windows 95. Pop the CD in the drive, wait a few seconds and the Windows 95 menu will autorun. However, this feature is not supported on all machines so if nothing happens click on Start, then select REVIEW95.EXE, and you're into the action.

browse option to select the file REVIEW.EXE.

Double click the file name to start the menu.

Our Windows menus are split into five sections, the contents of which are described in more detail in these disc pages. To get to a section click on its icon from the main screen, and then use the arrow keys to move backwards and forwards through the demos in the section.

DOS Menu

Even in these enlightened times many games require DOS to run, so you'll find most of this month's in our DOS menu. To fire things up, just type PCR or GO at the DOS prompt of your CD-ROM drive. You'll then be asked how many colours you want to run the menu in. Most systems these days can support 256 colours, so make this your first choice.

The program remembers which choice you made and goes straight to the relevant menu next time you run our it, so you'll only be asked once. If you want to change your mind. and run the menu with a different numb colours, then type TRY AGAIN at your CD drive letter (usually D:). Once the DOS menu is up and running use the arrow icons to scroll through our demo selection.



Windows 95

Some DOS gemes have blems running in Windows 95. We've included an option to run the DOS games that we know work in Windows 95 from our enu, but we can't guarantee they'll work on all systems. If you're having trouble running a ning it from our DOS Menu

Mode from the Shut Down Menu When DOS has started type D:\PCR, where D is the letter of vour CD drive

Install options

Make sure you select the default installation path for all demos, otherwise when you click the Run button nothing will happen.

Support

If you need help getting a demo to work, call our support line on 01225 442244 and ask for Trevor Witt. Or email him on support@futurenet.co.uk

Disclaimer

CD Review is thoroughly checked for all known viruses and independently certifled before duplication. While every care is taken in selec tion, testing and installation of CD Review, Future Publishing cannot accept responsibility for loss or damage occurring during its use. You are advised to have recent, verified back-ups of all important files before installing new software

Memory

If you have trouble running a demo it may be because you need In the AUTOEXEC.BAT any device

Conventional memory is the memory below 640K. Even if you have a PC with 8Mb of RAM, that does n't mean you'll have the convenmory to run a CD Review demo. To find out how much free conventional memory you have type MEM[Enter] at the DOS mpt. If the figure beside the line largest executable program size' is less than about 550k then

You can free up more conventional memory by loading the EMM386 driver which ello you to move device drivers into upper memory, thus freeing up more space. To edd the EMM386 COUNTRY, SYS driver you need to edit your AUTOEXEC.BAT and CONFIG.SYS files. It is alweys a good idea to make copies of them before editing them. At the C:\> prompt type: CONFIG BAK (ENTER) COPY C:\AUTOEXEC.BAT

If you have any problems later on you can return to these by typing: COPY C:\CONFIG.BAR COPY C: \AUTOEXEC. BAK AUTOEX-

To edit your system files type EDIT followed by the name of the file. These lines should be in your CONFIG.SYS file: DEVICE=C:\DOS\HIMEM,SYS

DOS=HIGH, UMB Any lines starting with DEVICE should be changed to:

DEVICE=C:\DOS\EMB86.EXE

change to take effect. You will have to reverse the above change for other programs to work.

The ssential Selection

To help you out with all your computing needs, and to assist you in getting the most out of this CD Review we've bundled together a set of very handy utilities. It's called the Essential Selection for an obvious reason: if you don't have these things already, you

Video helpers

find QuickTime for Windows 2.03 handy videos rears Its head. Likewise, there's a for the Windows-based video files.

PaintShop Pro

Every PC user needs a graphics package Pro. We've included both Windows 95 and 3.1 versions on CD Review

WinZip

also extremely useful if you send or receive files over the Net or when you disk. Again, we've Included both

Win32

you to have Win32 installed on your

should now be sent to high memory.

For example: should read: LH C:\MOUSE\MOUSE

These changes will free more conventional memory Another way to free up more conventional memor is to remove eny Terminate and Stay Resident (TSR) programs from the system files. The following lines are not essential for using CD Review. Kill them by putting

REM at the start of the line. Any line containing SMARTDRY SYS, DISPLAY, SYS OF

In AUTOEXEC.BAT Any line containing SMARTDRY,

DOSKEY, or which loads a virus When you've made the

changes, reboot. To restore your system, simply reverse any changes, or replace the nev CONFIG.SYS and AUTOEXEC.BAT files with your back-ups.

EMS Memory

Some PC games require EMS nory rather then XMS memory. To configure your PC for EMS memory change the line in your CONFIG.SYS reading: DEVICE=C:\DOS\EMM386: EXE NOEMS

DEVIĈE-C: YDOS LEMM386. Reboot your machine for this

RUNNING **PROGRAMS MANUALLY**

If you have memory constraints, or you find there are palette problems and the display colours look wrong when running demos from our menus, then you may need to run the demos manually. Here is a list of the executable files you need to run (assuming your CD-ROM drive is D:\)

Program Directory and File name

D:\Bermuda\Install.exe

D:\Sharew\Boids.exe

D:\Citizens\Install.bat

D:\Cubase\Install.exe

D:\Organise\Setup.exe

D:\Studio\Install.exe

D:\Maris\Dademo.exe

D:\Fozzie\Project1.exe

D:\Gender\Install.exe

D:\Norton\Navscan.exe

D:\Pcoly\Demo.exe

D:\Origins\Demo.exe

D:\Pray\Isntall.bat

D:\Scala\mm.exe

D:\Sfxcd\Sfxcover.exe

D:\Games\Shells\Install.bat

D:\Games\A10\Stdemo.exe

D:\Sharew\Form06r\Wform.exe

D:\Sharew\Guitar\Gtsetup.exe

D:\Sharew\Poster30\Poster.exe

D;\Sharew\Powerd\Setup.exe

D:\Sharew\Prim\Install.exe

D:\Games\Quake\Install.bat

D:\Connectd\Connect.exe

Bermuda Syndrome Boids

Citizens Connections

Cubase Score 3.0 Digita Organiser 1.0

Digital Studio Discover Astronomy

FORM

Fozzie Command Gender Wars

Guitar Tutor 3.0 Norton Antivirus Olympic Games

> One-Minute Guide D;\HPCDR\Guide95\guide95.exe Origins of Mankind

> > Perfect Plants Poster 3.0 PowerDesk 1.1

Pray for Death Primordial Life 3.0

Quake v0.92 Patch D:\Games\Quake92p\Install.bat

Scala Show and Tell SFX-CD

Shellshock Silent Thunder Smart Games Challenge 1

> D:\Games\Chall1\Sqc1demo.exe D:\Sharew\Stuffit\Sitex10 exe

Stuffit Trophy Bass Truckology

Virtua Fighter Remix WinLife WordExpress 2.0

Worms

D:\Bass\Setup.exe D:\Truk\Trucdemo.exe D:\Ssp.exe D:\Winlife\Winlfe.exe D:\Sharew\we95\Setup.exe

D:\Games\Worms\installc.bat

NEXTMONTH

Fun with photos!

in PC REVIEW

PRODUCT

We give away the
complete version of
Photopies. This fully
featured image editing
package, normally sold
for £34, comes complete
with a 100-page
manual,

Plus:

We let you in on the secrets of image manipulation and show you what the experts get away with!

- Getting images into your PC
- Fooling around with photos
- Colour printing techniques

On sale Thursday 15 August Reserve your copy NOW!

Control Freak

Tale control of your PC with our roundup of ten new controllers – all selling for less than £50.

Your next processor

Thinking of getting a new CPU? Don't spend out on anything until you've read our definitive buyers guide.

The ultimate sports double-bill

Exclusive playable demos of new golf game Links LS and knockabout Davis Cup Complete Tennis.

Meet the graphics godfather

We interview Kai Krause, the man behind the world's best photo software and review his latest: Power Goo.

Get your revenge

We show you how to send phony emails via the Net, with a top practical joke to get you started.

MILATIN

PRICE! CHOICE! QUALITY! SER

O1924 473157 SALES HOTLINES OPEN SEVEN DAYS A WEEK OPEN SEVEN DE LA PRICES INCLUDE VAT.

THESE HAVE MADE US ONE OF THE LARGEST SUPPLIERS **OF COMPUTER SOFTWARE IN THE COUNTRY TODAY!!**

CD ROM GAMES

1944 AC 1942 PAC + WINGS 7TH GUES

1944 ACROSS THE RHINE	WITH EVERY ORDER
1942 PACIFIC AIR WAR + FLEET DEFENDER + WINGS OF GLORY	FIRSTLY, EVERY TIME YOU PLACE AN ORDER YOU MAY CHOOSE A
	PIECÉ OF SOFTWARE FROM OUR EXTENSIVE FREE GIFT LIST OF GAMES, EDUCATIONAL SOFTWARE, REFERENCE, LIFESTYLE PRODUCT.
ABUSE £32.99	AND ACCESSORIES. THERE IS A LIMIT OF ONE FREE GIFT PER WEEK
AFTER DARK SCREEN SAVER '95 £19 99 AH-64D LONGBOW £34.99	BUT NO MINIMUM ORDER VALUE TO QUALIFY. SECONDLY, YOU
ACTUA SOCCÉR £26.99	WILL ALSO RECEIVE OUR LATEST 24 PAGE CATALOGUE PACKÉD WIT REVIEWS, COMPETITIONS, MORE FREE GIFTS
AFTERUFE £2B 99	REASE REMEMBER TO ASK FOR YOUR FREE SOFTWARE WHEN ORDERING
ARCADE AMERICA. £24.99	MICROSOFT FLIGHT SIM 5.1 SCENERY PACK -
ATELIC C34 00	(JAPAN, HAWAII & CARIBBEAN)
Augroup & Dier Cree Diamiene CI127 Engage	SCENERY DISK - BRITISH ISIES PART 1 \$19.99

AH-04U LONGBOW		WILL ALSO RECEIVE OUR LATEST 24 PAGE CATALOGUE	PACKED WITH
ACTUA SOCCÈR	£26.99	REVIEWS, COMPETITIONS, MORE FREE GIFTS	S
AFTERUFE	£2B 99	REASE REMEMBER TO ASK FOR YOUR FREE SOFTWARE WH	EN ORDERING!
ARCADE AMERICA	£24.99		
ASCENDANGY	£31 99	MICROSOFT FLIGHT SIM 5.1 SCENERY PACK -	
ATFLIS	634 99	[APAN, HAWAII & CARIBBEAN]	£25.99
AWESOME 4 PACK - STEEL PANTHERS SUL-27 FLANE	(FR	JAPAN, HAWAII & CARIBBEAN)	£19.99
AWESOME 4 PACK - STEEL PAINTHERS, SU-27 FLANI ENDOMORPH & CYBERSPEED	£27.99	MICROSOFT FLIGHT SIM 5.1 TOWER	£CALL
AZREAL'S TEAR	FLOWEST	Monopoly	£28.99
BAD MOIO	£32 00	MONTY PYTHON & THE HOLY GRAIL	£2B.99
BATTLEGROUND GETTYSBURG/ARDENNES	EACH COR QQ	MORTAL KOMBAT 3 PLEASE SPECIFY WIN '95 OR DC	S)£27.99
BATTLEGROUND WATERLOO	¢27 99	Myst	£27 99
BEAVIS & BUTTHEAD	00 00	NEED FOR SPEED	£31 99
BERMUDA SYNDROME	COB 90	NBA Live '96	£32.99
CAFSAR 2	\$21.99	NHL HOCKEY '96	£31.99
CAESAR 2	00 00	NORMAUTY INC	£23.99
CHAMPIONSHIP MANAGER EXTRA LEAGUES	FACH \$20 00	OLYMPIC SOCCER	£26.99
CHAOS OVERLORDS	£23 00	OFFENSIVE	£27.99
CHRONICIES OF THE SWORD	632 99	ON SIDE SOCCER	£25.99
CIVILISATION 2	630 00	PANZER GENERAL	£12.99
COMMAND & CONQUER	620 00	PBA BOWING.	\$22.99
CONQUEST OF NEW WORLD	65,963	PGA Tour Golf '96	£32 99
COVERT OPERATIONS (C&C DATA DISK)	00 113	PGA TOUR GOLF '96 SPANISH BAY COURSE	£15 99
COVER GIRL STRIP POLICE	£11.00	PGA EUROPEAN TOUR	£32.99
COVER GIRL STRIP POKER	£12.00	PGA EUROPEAN TOUR SAWGRASS DATA DISK	£15 99
CRUSADER NO REMORSE	230.00	PINBALL '95.	
CYBERJUDAS	625 90	POUCE QUEST SWAT	£25.99
CYBERIA 2	631.00	POPULOUS 2 & POWERMONGER	£7 99
CYBERSTORM	\$27.00	POWER, CORRUPTION & LIES - UFO F-14	
D	629 99	POWER, CORRUPTION & LIES - UFO, F-14, DUNE 2, BENEATH A STEEL SKY	\$24.99
DARK FORCES	620 00	RAYMAN (WINDOWS '95)	\$26.99
DEADLINE	631 00	REBEL ASSAULT.	. 60 00
DESCENT 2	629 99	REBEL ASSAULT 2	£31 99
DESERT STRIKE & HINICIE STRIKE	90 MI2	RETURN FIRE (WINDOWS '95)	C2B 99

CRESTOM	CYBERIA 2	£31.99	POPULOUS 2 & POWERMONGER	£7.9	9
DEADNIE	CYBERSTORM	£27 99	POWER, CORRUPTION & LIES - UFO, 1-14,	00 : -	-
Section Color Co	D	£29 99	DUNE 2, BENEATH A STEEL SKY	£24.5	79
DESCENT 2 279.99	DARK FORCES	£29.99	RAYMAN (WINDOWS '95)	£26.9	19
DESERTION DEVIL STREE & LIANGE STREE	DEADLINE	£31.99	KEREL ASSAULT	£9 9	79
Deciviolity Control	DESCENT 2	£29.99	REBEL ASSAULT 2	. £31.9	19
Deciviolity Control	DESERT STRIKE & JUNGLE STRIKE	£14.99	RETURN FIRE (WINDOWS '95)	£2B.9	19
DOCK	DESTRUCTION DERBY	£31 99	RIDDLE OF MASTER LU	£29.9	79
DOON 2	DISCWORLD	£32 99	RIPPER	£29.9	79
DIODO: 1000 ETRIA FERRIS FOR DOOM & DOOM 2 . (21, 29) DUNE NUMBER 3D	Dogz.	£12.99	RISE & RULE OF ANCIENT EMPIRES	£27 9	9
Date Naces 3D. C25,99 SCRABEI (3.7 'Disk). £21,99 Dun 2 £10.99 SCRAME (8.15' Disk). £21,99 Dun 2 £10.99 SCRAME (8.15' Disk). £22,99 Dun 2 £12.99 SIRNBIE GOI £22,99 Dun 2 £12.99 SIRNBIE GOI £22,99 Earlbridge (2) £12.99 SIRNBIE GOI £22,99 Earlbridge (2) £12.99 SIRNBIE GOI £22,99 Earlbridge (2) £22,99 SIRNBIE GOI £22,99 Elbe Scottis Arena Deluse £22,99 SIRNBIE GOI £28,99 PERMER MAN J, KIC OF 3 AND PLAYER MANAGER, ON THE BUIL £22,99 SIRNBIE GOI £20,00 PERMER MAN J, KIC OF 3 AND PLAYER MANAGER (2) £22,99 SIRNBIE GOI £20,00 UNA PLAN PRIVATE AND PORT SIRNBIE GOI £20,00 FI GRAND PER MANAGER £31.99 SIRNBIE GOI £20,00 UNA PLAN PRIVATE AND PORT SIRNBIE GOI £20,00 FI GRAND PER MANAGER £31.99 SFER AGE £23,99 SFER AGE £23,99 FI GARDA PER MANAGER £31.99 SFER AG	Dooм 2	£28.99			
Dunceon Kepere	D1000 - 1000 Extra levels for Doom & Doom 2	£12.99	SAM & MAX HIT THE ROAD	£12.9	9
DUNCEON KEPER	DUKE NUKEM 3D	£25.99	SCRABBLE (3.5" DISK)	£21.9	9
EARHISIGE	DUNE 2	£10 99	SCREAMER	£1B 9	9
EARHISIGE			SENSIBLE GOLF	£22.9	9
EARTHWOME STOOD LIMINGS STOOD SAME THANDER C. 229 99	DUNGEON MASTER 2	£25.99	SENSIBLE WORLD OF SOCCER	£19.9	9
EARTHWOME STOOD LIMINGS STOOD SAME THANDER C. 229 99	EARTHSIEGE	£9.99	Settlers 2	£26.9	79
EARTHWOME STOOD LIMINGS STOOD SAME THANDER C. 229 99	EARTHSIEGE 2	£29 99	SILENT HUNTER	£29 9	9
EDIES SCOULS: ARENA DELIUE	EARTHWORM JIM	£12.99	SILENT THUNDER	£29.9	19
EIDER SCOULS ARENA DELLUE	EF 2000 (LIMITED STOCK)	£27.99	SIM CITY 2000	£16.9	9
1 Gard Pink Manager	ELDER SCROUS: ARENA DELUXE	£31.99	SIM CITY 2000 + URBAN RENEWAL KIT +SCENARIO DIS	K 1 +	-
Figure Print Namager Color Col	EURO '96	£22.99	DISASTER DISK	£35.9	9
Figure Print Namager Color Col	EURO SOCCER STARS '96 - FIFA, CHAMP MANAGER, O	N THE BALL,	SIMON THE SORCERER 1+2 (DOS.WIN3.1 & WIN '95)	£29.9	79
Figure Print Namager Color Col	PREMIER MAN. 3, KICK OFF 3 AND PLAYER MANAGER	2£22.99	SUPSTREAM 5000	£99	9
Figure Print Namager Color Col	FANTASY GENERAL	£29 99	SPACE HILLK 2: V.O.T.B.A.	£32.9	9
FI GRAID PRIX MANAGER C 23.99 FRASCOCKER 90 FRAS	F1 GRAND PRIX 2	£30.99	SPACE HUIK	\$7.9	19
Face To Black First Socker 90 First Antifersancinonal Sockers + PGA 486 + F1	F1 GRAND PRIX MANAGER	£31 99	SPEED RAGE	\$25.9	ó
Fish Alterisanticoan Socces PGA 486 F.	FADE TO BLACK	£31.99	SPEED HASTE	£33 d	00
Fish Alterisanticoan Socces PGA 486 F.	FIFA SOCCER '96	£24.99	SPYCRAFT	\$20.0	ó
Flicht Hawnife for Windows 3	FIFA INTERNATIONAL SOCCER + PGA 486 + F1	£17 99	STARRICHTER 3000	\$26.0	ó
Flicht Hawnife for Windows 3	FLIGHT OF AMAZON QUEEN + GUIDE BOOK	£12.99	STEEL PANTHERS	620.0	ó
Floor I NAMITED FOR WINDOWS 95	FIICHT (INITIALITED ECO MAINDOWS 3]	620 00	STAD THE DEED SPACE O HADRINGED	226.0	ó
FAINT INCOME DASEBAIL 1.52 99 STAR TREY NOTE GREEATION 1.23 99 CARREN KINGHY 2. THE BAST WITHIN 1.20 99 STAR TREY NOTE GREEATION 1.20 99 STAR 1.20 99 STAR TREY NOTE GREEATION 1.20 99 STAR 1.	FLIGHT UNLIMITED FOR WINDOWS '95	£33 99	STAR TREE VINICONI	C30.0	ó
FILI THEOTILE	FRANK THOMAS BASERALI	£25 QQ	STAR TREY CENERATION	C31 0	00
GREF MACHINE	FULL THROTTLE	£31 99			
GREF MACHINE	GARRIEL KNIGHT 2 THE BEAST WITHIN	\$26.99	CTAD TORY TROUBLESS AAAAAAA	C20 0	00
GREAT NAVAU BARTIES 4	GENE MACHINE	\$25.99	CYON.	. £20.7	2
HADDING	GREAT NAVAL BATTLES 4	£28 99	City Decr 2 City	C14 0	00
Herric Suadow or Int Sepren	HARDINE	\$29 99	CONDUCTE DUE	£107	0
HEBEIC: SHADOW OF THE SEPRIN 225.99	HEYEN	654 66	SYNDICATE FILLS		9
Beanows Offices 122 199	HERETIC: SHADOW OF THE SERBENT	\$25.00	SYSTEM SHOCK	111.9	2
Norca 2	IAN BOTHAM CRICKET	\$25.00	TERMINATOR - PUTURE SHOCK	£20.9	Ä
Junkie Book 229 99	INDVCAG 2	00 153	TERRANOVA	. £31.9	9
Kick OF 96	FUNCIE ROOV	620 00			
Less Devices Less	Kick Oct 106	C23 00	THE DIG	£31.9	9
Less Devices Less	VINICE OUEET 7	C10 00	THIS MEANS WAR.	£30.9	9
Less Devices Less	KINGS QUEST COLLECTION 1.6	C10 00	TIE FIGHTER COLLECTOR'S CD.	£31.9	9
TAMES PANIBAL			THEME PARK	£11.9	9
Unite Bid Adventure 1 1 99	Irumor 1 9 2	C12.00	THEME PARK + TRANSPORT TYCOON	£19.9	9
Unite Bid Adventure 1 1 99	ITALIAN CO PANITALI	C21 00	TNN '96 FISHING	£30 9	9
Unite Bid Adventure 1 1 99	LOUGHOUSE AINIBALL	. £21.99	TOP GUN	£28.9	19
Unite Bid Adventure 1 1 99	Inne Cor 204 . 2 Counces	C27.99	ULTIMATE DOOM (SPECIFY WINDOWS '95 OR DOS)	£21.9	9
COET EDIN	UNKS GOLD 300 + 2 COURSES	C11.00	ULTIMA UNDERWORLD 1 + 2	£7 9	9
Macic Neg Aliente 1.00 1	Loca English	£11.99	UNDER A KILLING MOON	£129	9
Macic Neg Aliente 1.00 1	LOSI EDEN	£12 99	UNNECESSARY ROUGHNESS *95	£119	9
VIEW	MAGIC CARPET + MIDDEN VVORIDS	£12.99	Urban Runner	£28 9	9
VIEW	MAGIC CARPEL Z	£24.99	US NAVY FIGHTERS & MARINE FIGHTERS	£32.9	9
Verula Shocker 9.27.99			VIPER	£29 9	9
MECH WARROY 2 PIEARE SPECEF WIN 95 OF DOS 231 09 MICRO MACHINES 2 SPECIAL EDITION 219 99 MICRO MACHINES 2 SPECIAL EDITION 219 99 MICROSOFF FLOCT 20 + MALINA KER & PINEHLISST 233 99 MICROSOFF FLOCT 50 + MALINA KER & PINEHLISST 233 99 MICROSOFF FLOCT IS W. 51 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 51 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 51 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 51 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 51 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 51 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 51 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 51 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 51 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 51 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 52 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 52 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 52 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 52 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 52 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 52 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 52 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 52 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 52 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 52 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 53 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 53 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 54 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 54 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 54 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 54 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 54 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 54 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 54 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 54 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 54 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 54 + New York & Pales 239 99 MICROSOFF FLOCH IS W. 54 + New	MAKIIAN CHRONICALS	£2/.99	VIRTUAL SNOOKER	£27.9	19
MICROSOFT FLIGHT SHOP £35.99 WING COMMANDER 4 £36.99 WING COMMANDER 4 £36.99 WING COMMANDER 2 £19.99	MASTER OF URION 2	£28 99	Wangnage 2	ഗാര വ	XO.
MICROSOFT FLIGHT SHOP £35.99 WING COMMANDER 4 £36.99 WING COMMANDER 4 £36.99 WING COMMANDER 2 £19.99	MECH WARRIOR 2 PLEASE SPECIFY WIN '95 OR DOS) £31.99	WARCRAFT 2 ADD ON DISK (50 JEVELS)	6140	ó
MICROSOFT FLIGHT SHOP £35.99 WING COMMANDER 4 £36.99 WING COMMANDER 4 £36.99 WING COMMANDER 2 £19.99	MICRO MACHINES 2 SPECIAL EDITION	99	WARCHAET 2 AND ON DISK (100 LEVELS)	C10 0	ó
MICROSOFT FLIGHT SHOP £35.99 WING COMMANDER 4 £36.99 WING COMMANDER 4 £36.99 WING COMMANDER 2 £19.99	MICROSOFT GOLF 2.0 + MAUNA KEA & PINEHURST	£33 99	WARRANGE SUADOW OF THE HORSED PAT	C240	ó
MICROSOFT FLIGHT SHOP £35.99 WING COMMANDER 4 £36.99 WING COMMANDER 4 £36.99 WING COMMANDER 2 £19.99	MICROSOFT FLIGHT SIM 5.1 + NEW YORK & PARIS	£39 99	WINE COMMANDED 3	11 0	á
WITCHAVEN 2	MICROSOFT FLIGHT SIM 5 1	£33.99	Wine Commander J	24.0	ž
WIICHARD Z SOO SO	MICROSOFT FLIGHT SHOP	£35.99	Machine C	C10.0	0
	ACCADAGICE Town Victoria	-	Word Prove From	£ 17.9	7

HOME & REFERENCE **MICROSOFT SPECIAL OFFERS**

	£39.99	£32	.99
		KIA UPIDA ME	The same
	Company CV		
		RIA-Jr.	1
	JEVIN JEVIN	LOPEDMA PG	rie Maker
		RRP	OFFER
	3D Movie Maker	£49.99	£32.99
	500 NATIONS	£29 99	£19.99
	ANCIENT LANDS	£49.99	£19.99
	ART GALLERY	£49.99	£32.99
	AUTOROUTE V4	£59.99	£34.99
	BOOKSHELF '95	£/9.99	£41.99
	CINEMANIA '96	£49.99	£23.99
	COMPOSERS	£09.99	£40.99
	DANGEROUS CREATURES	£37.77	C10 00
	Dogs	£30 00	£25.00
	DINOSAURS	£29 99	£25.99
	ENCARTA WORLD ATLAS	£49 99	£39.99
ì	ENCARTA '96	£49.99	£40.99
	FRANK LIOYD WRIGHT	£39.99	£25.99
į	MUSIC (PER COMPOSER) MUSIC CENTRAL	£29.99	£25.99
	MUSIC CENTRAL	£49.99	£32.99
i	OCEANS	£39.99	£25.99
1	OFFICE PRO	640 00	£349.99
1	Plus (For Windows'95) Windows '95	£49 99 £00 00	£33.99
	WINE GUIDE	£40 00	£10 00
	AA LIAE COIDE	*********	******

World of Flight£19.99				
3D WALKTHROUGH HOME DESIGNER	£30.99			
BBC GARDEN DESIGNER 2	£16.99			
BODYWORKS 4	£8.99			
BODYWORKS 5	£14.99			
COMPTON'S MULTIMEDIA BIBLE	£24.99			
COREL DRAW 4.0 (MANUAL AVAILABLE SEPARATELY				
FROM COREL PRICED AT £22.00)	£39.99			
COREL PRINTHOUSE	£19.99			
FLAGTOWER SINGLE CD RANGE				
FLAGTOWER DOUBLE CD RANGE				
GROWER ENCYCLOPAEDIA '96	£17.99			
HUTCHINSON'S INTERACTIVE ENCYCLOPAEDIA -				
THE ONLY BRITISH ENCYLOPAEDIA ON CD ROM				
HUTCHINSON'S INTERACTIVE ENCYCLOPAEDIA - '96				
INFOPEDIA UK	£23.99			
INTERACTIVE PERIODIC TABLE	£23.99			
MASTERCUPS PREMIUM IMAGE COLLECTION 33000 CUP				
IMAGES, 1000 FONTS & 1000 PHOTOS	£39.99			
MAVIS TEACHES TYPING V4				
MINI OFFICE				
QUICKEN 5.0	£36.99			
REDSHIFT 2 - INTERACTIVE ASTRONOMY				
WORLD ATLAS V5	£11.99			

DORLING KINDERSLEY



ISTORY OF THE WORLD	£2
MY FIRST AMAZING WORLD EXPLORER	£2
MY FIRST INCREDIBLE AMAZING DICTIONARY	£1
B BEAR'S BIRTHDAY PARTY	£2
HOTO GALLERY CHILDREN, WILD ANIMALS ETCE.	ACH
STOWAWAY	£2
HE WAY THINGS WORK	
Jltimate Human Body	£2
IRTUAL REALITY BIRD	
/irtual Reality Cat	
WORLD ATLAS FOR WINDOWS	£3

COMMUNICATIONS



PACE NETLINK INTERNET PACKAGES

EACH PACKAGE COMES COMPLETE WITH INTERNAL OR EXTERNAL FAX/MODEM, NETLINK SOFTWARE, 21 DAYS FREE INTERNET USAGE, AN INTERNET GUIDE BOOK OF WEIRD AND WONDERFUL SITES

TO VISIT & FREE TECHNICAL SUPPORT!
14,400 BPS £105.9
28.800 BPS £149 9
QUARTERDECK WEB TAIK £46.5
QUARTERDECK WEB AUTHOR£49.9
QUARTERDECK INTERNET SUITE£44.9
COMPUSERVE STARTER PACK£24.9



GEOGRAPHY, ART, HISTORY AND ECO	LDGY
ONLYEACH £18.99	
Kuk 'n' Play - unique windows of	
CREATOR. INVENT ADVENTURE GAMES, PUZZLES OR	SHOOT
EM-UPS. NO PREVIOUS EXPERIENCE NECESSARY!£	
(JIK 'N' PLAY GAMEPACK (CD ROM ONLY)	£4,99
IN SCHOOL LANGUAGES FACH S	16.99
UN SCHOOL 4 - <5/5-7/7-1 LYRS (CD OR 3.5")	17.99
UN SCHOOL SPELLING ICD OR 3.5").	14.99
UN SCHOOL MATHS (CD OR 3.5")	18.50
BRODERBUND	

Associate Dominion	017.00
ARTHUR'S BIRTHDAY	
ARTHUR'S TEACHER TROUBLE	
Dr Seuss ABC	£25.99
HARRY & THE HAUNTED HOUSE.	£24 99
JUST GRANDMA & ME	£24 00
Kio Pix Studio	C24.00
LEARN THE ART OF MAGIC	C24.77
LEARN THE ART OF WAGIC	
LOGICAL JOURNEY OF THE ZOOMBINIS	£24.99
MATHS WORKSHOP.	£24 99
RUFFS BONE.	£24.99
SHEKA RAE, THE BRAVE	£24.99
TORTOISE AND THE HARE	£24.99
MICROSOFT	
CREATIVE WRITER	£10 00
EASYBALL EXPLORAPEADIA OF NATURE	£31 00
EVENORADEANIA OF MATTIES	£10 00
FINE ARISS . Fine Ariss + Creative Writer Double Pack. How the Leopard Got his Spots	C22.00
FAIR ADDET . COCATOR MAINTE DOLLAR DACK	C40.00
HOW THE LEGILLE OF THE COOK	
HOW THE LEOPARD GOT HIS SPOIS	t.ZZ.99
MAGIC SCHOOLBUS - SOLAR SYSTEM/HUMAN BODY/EARTH	£25.99
MAGIC SCHOOLBUS - OCEANS	£10.99
Ultimate Haunted House	£24.99
OTHERS	
BUSY PEOPLE OF HAMSTERLAND.	£23.99
CRAYOLA ART STUDIO	£23.99
CRAYOLA ART STUDIO	
MUPPETS BEGINNING TO READ, MUPPETS READ LISTEN LEARN,	
SAMMY'S SCIENCE HOUSE, ETC	£13.99
IANI PIENKOMICKY'C HARMITED HOURE	600 00
LOST MAIND OF DE REATH	00.002
MADTY & THE TOO BILL WATER CHEETE	
MATICAD VA COR CHIPCHES	C22.00
PLES CCCC HARRIS (OR YOUR HOURS AN AND	t.JJ77
PASS GCGE MATHS TOR YOUR MONEY BACK!	±10.99
LOST MIND OF DR. BRAIN MARY & THE TROUBLE WHY CHESS. MARHOLD V6 FOR STUDENTS. PASS GCSE MATHS (OR YOUR MONEY BACK!). P.A.W.S	£19.99
MAYTOONS SERIESEACH	1 £ 1 9.99
THE FISH WHO COULD WISH	£21.99
THE LOST MIND OF DR. BRAIN	£20.99
THE GREATEST TOYSHOP ON EARTH	£26.99
ACK AROUT OUR EDER EDUCATIONAL COST	

ASK ABOUT OUR FREE EDUCATIONAL SOFTWARE



Y	CENTR	E	 	 	 	 	

ALADDIN ACTIVITY CENTRE	£34.99
LION KING INTERACTIVE STORYBOOK	£34.99
LION KING ACTIVITY CENTRE	£34.99
MICKEY & CREW PRINT STUDIO	£28.99
POCHAHONTAS STORYBOOK	£34.99
ALL BUT DOLLARS INVALORED AND AND DAME	

THE 10 OUT OF 10 RANGE

is highlyaccinised callection of inexpensive pockages of inexpensive packages of long the teaches solely through gome-based activities designed to stimulote your children and interest them 10/10 is the UK's leading supplier of software to a chools Early Essentials (3-7 yrs), Junior Essentials (3-11), Months Number (8-10), Months Algebra (6-16), Months English 6-16), French (6-10, German (6-16), Essential Science (5-12),......£13.99 EACH



LANGUAGE

GLOBAL LANGUAGES - LEARN TO SPEAK FRENCH German, Italian or Spanish Through Listening, speaking and writing. There levels on each disk Beginner, Intermediate and Advanced ONLY £21.99 Each

MEETE HAVE & LAKE KINES METERS.	
FRENCH/GERMAN/SPANISH/ITALIAN OR JAPANESE	EACH £87.99
FIENCH YOUR WAY / SPANSH YOUR WAY - INCLUDES MA	
AND 60 MINUTE AUDIO CASSETTE. VOICE RECOGNITION	i, Listening
COMPREHENSION, RECORD AND PLAYBACK, INTERACTIVE	
CONVERSATIONS ETC. CALL FOR MORE INFORMATION	£64.99
LANGUAGE ASSISTANT EASILY TRANSLATES DOCUMENTS F	
FRENCH GERMAN SPANISH OF ITALIAN	£52.99

CALL FOR DETAILS OF TEN AND TWENE SPEED DRIVES

JOYSTICKS & MICE

AQUAPAD - 4 CONVENTIONAL BUTTONS PLUS 2 TURBO	£11 00
CH FUGHTSTICK PRO JOYSTICK	£49.99
CTI FUGHISHOK PRO JOTSHOK	249.99
CH THROTTLE PRO	£78.99
CH F-16 FIGHTER STICK	£78.99
CH VIRTUAL PILOT PRO	£77.99
CLI Day Day	£69 99
CH PRO PEDAL	
CH GAME CARD.	.£25.99
GRAYIS ANALOGUE PRO JOYSTICK	£29.99
GRAYIS GAMEPAD	£19.99
DIATIS OAMERAD	
PHANTOM 2 · 6 BUTTON JOYPAD!	.£14.99
SAITEK ACEMASTER 18 · 4 MICROSWITCHED FIRE BUTTONS WITH TURBO FI	E
HAT SWITCH, SEPERATE THROTTLE LEVER, PROTEIN RUBBER- EFFECT HANDLE	£33.99
SAITEK MEGAGRIP 8 JOYSTICK	£14.99
Saitek Megapad 8	£1 1.9 9
SUPER WARRIOR 5 QS201 JOYSTICKIANALOGUE, AUTO-FIRE, 15 PIN	£14.99
WARRIOR 5 QS123 JOYSTICK ANALOGUE, 15 PIN]	£11.50
LOYSTICK SPLITTER CABLE -RUN 2 JOYSTICKS/PADS FROM ONE PORT	
	1.,44
MICROSOFT MOUSE WITH 18 GAMES	
(BEST OF THE ENTERTAINMENT PACK AND ARCADE PACK) ONLY	\$26.90
SPARE MOUSE MAT (CHOICE OF COLOURS/DESIGNS)	
SPARE MOUSE MAI JUNIOUS OF COLOURS/ DESIGNS)	L1.99







THRUSTMASTER PRODUCTS

THRUSTMASTER 72 STEERING ASSEMBLY (NEW DESIGN)
COMES COMPRETE WITH STEERING WHERE, WORKING GÉARRICK,
PENALS & ROCOMMARIE BUTTONS, RRF 2199,99
OUR PRICE £124,99
SPECIAL OFFER - BUT A 12 STEERING WHEEL
& get MICROPROSS FORMALINA I GRAND PRIX 2 for
just £19,99. That's less than hall the anomal RRP







HRUSTMASTER MK2 WEAPONS CONTROL

UNLIKE MANY OF OUR COMPETITORS, WE ONLY SELL GENUINE UK SUPPORTED THRUSTMASTER PRODUCTS, NOT UNSUPPORTED US IMPORTS. WE OFFER FULL TECHNICAL BACK-UP AND HAVE A READILY AVAILABLE SUPPLY OF SPARE PARTS.



FISH	
CLEANSWEEP '95	£33,99
DR SOLOMON'S ANTI-VIRUS FOR WINDOWS	£94.99
D TIME - ACCELERATOR WHICH CAN MAKE YOUR	
CD ROM DRIVE RUN UP TO 10 TIMES FASTER	
FIRST AID '95 FOR WINDOWS '95	£37.99
GAMERUNNER 2	£37.99
HUAAK '95	£3/.99
MAGNARAM 2	£33 00
NORTON ANTIVIRUS.	C71 00
PC-Cillin	£42.99
QEMM 8	£64.99
SOFTRAM '96	£42.99
Uninstaller 3.5.	£34.99
WINPROBE 4	£44.99
XTREE GOLD FOR WINDOWS	£89.00

FREE GAMEPLAY CATALOGUE! RESERVE YOUR COPY NOW!!

GAMEPIAU	Cut out this order form and post GAMEPLAY, 513 BRADFORD ROA BATLEY, W. YORKSHIRE WF17 8L	AD,	FORMAT	PRICE £
Name:	Customer No:			£ £
Tet:		DAY DELIVERY available for £4.0 before 3pm to ensure immedia	ped within the U.K. P&P ie item. Optional NEXT 30. Please order TOTAL as payable to 'Gai ect at time of going to pre	

CARD NO. CAR

SALES HOTLINES
OPEN SEVEN DAYS A WEEK

UNES OPEN 9am Bym MONFR,
10am 25 SAT 1000 and an SUN

10am-7pm SAT, 10.00am-4pm SUN ANSWERPHONE ALL OTHER TIMES.

ORDER BY CREDIT CARD, CHEQUE POSTAL ORDERS OR CASH (PLEASE SEND CASH IN A REGISTERED ENVELOPE FOR YOUR OWN PROTECTION

MEGAPACK 5 - TERMINAL VELOCITY, JAGGED ÁLIJANCE, FLIGHT UNIJMITED (SPECIAL EDITION), F.X FIGHTER, PRIMAL RAGE, GEAT NAVAL BATTLES 4, PINBALL FARTAISES DELINE, ENTOMORPH, WARTORDS 2 DELIXE, POOX CHAMPION - ALL FOR JUST . £29.99

ENVELOPE FOR YOUR OWN PROTECTION

NO QUIBBLE RETURN POLICY - IF YOU ARE
UNHAPPY WITH YOUR PURCHASE FOR ANY
REASON, SIMPLY RETURN THE LIEM IN
PERFECT CONDITION WITHIN 48 HOURS OF
RECEIPT BY RECORDED DELIVERY AND SUBJECT
TO A FEE (10% OR MIN E4), WE WILL SWOP
IT FOR ANOTHER HEM, (THIS OFFER APPLIES
ONLY TO ITEMS LISTED IN OUR MOZING AND
UNIVERSIA AND EXCLUDES 3.5° DISKS
AND MICROSOFT PRODUCTS).



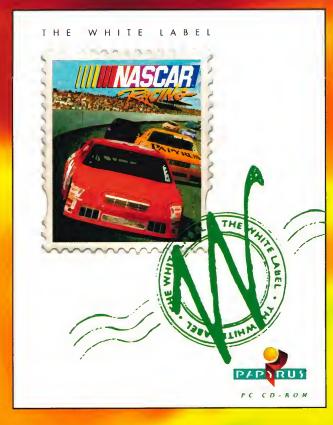
WITCHAVEN 2 WORLD RALLY FEVER WORMS WORMS PENERS

LARGEST DISTRIBUTORS IN THE COUNTRY! OVER 600,000 SOFTWARE ITEMS SUPPLIED SO FAR! WE PROVIDE ONE OF THE FASTEST DELIVERY SERVICES AROUND, 2-3 DAYS MAX ON STOCK ITEMS. (PLEASE ALLOW 7 DAYS FOR CLEARANCE IF SENDING A CHEQUE)

IST CLASS DELIVERY FREE OF CHARGE U.K MAINLAND. OPTIONAL NEXT DAY DELIVERY
\$4.00 PLEASE ORDER BEFORE 3PM TO
ENSURE IMMEDIATE DESPATCH

1000'S OF TITLES AVAILABLE, IF YOU CAN'T SEE THE ITEM YOU WANT, PLEASE RING AS STOCK APPLYES DAILY, SOCIALABLE AS IN CORRESPONDED ARRIVES DAILY SOFTWARE AND ACCESSORIES AVAILABLE FOR ALL MACHINES.

not all things white are pure

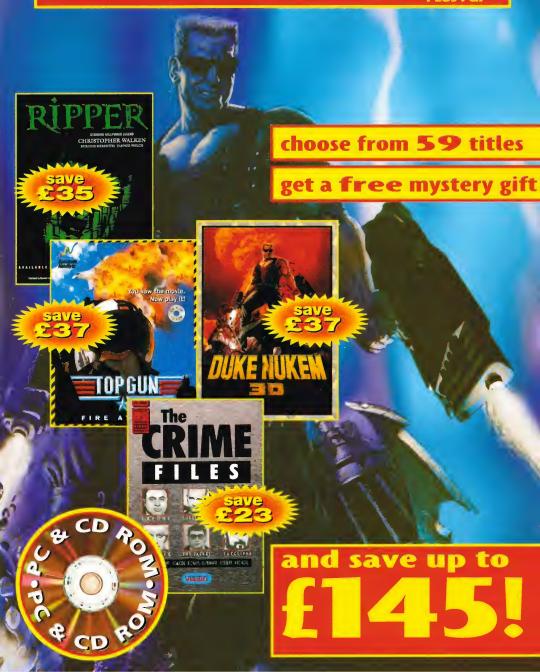




THE WHITE LABEL - IT'S RED HOT only £9.99 on pc cd-rom



Buy any three from 49 peach





INFOPEDIA

CD ROM Released at £39 99 Offer Price £7.99 SAVE £32!



INSTANT ACCESS TO THE INTERNET CD ROM Released at £24.99 Offer Price £4.99 SAVE £20!



IDIOT'S

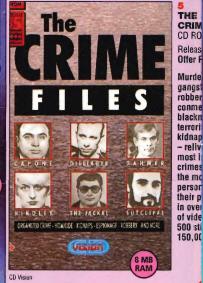
Windows 95

PAPERBACK











CV PRO WINDOWS PC 3.5 Released at £58.69 Offer Price £14.99 BAVE OVER £43



GUIDE TO

MANAGEMENT

Published at £9.95

Offer Price £0.49

MEMORY

THE COMPLETE IDIOT'S GUIDE TO WINDOWS 95 Published at £13.95 Offer Price £4.49









Electronic Arts

PGA TOUR '96

Released at £49 99

Offer Price £8.99

SAVE **£41!**

CD ROM Released at £54.99 Olfer Price £13.99





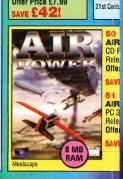
6 RICK DANGEROUS 1&2 Released at £9.98



44 TOP GUN CD ROM Offer Price £0.49 Released at £49.99 Offer Price £12.99 SAVE OVER £9



realistic MicroProse all-action flight-sim combat. add a truly cinematic atmosphere, superb plugand-play usability and a suspenseloaded plot based on one of the most popular Hollywood epics, then cruise the skies in Top Gun the



MAGIC

Released at £49.99

Offer Price £7.99

CARPET 2

The Home Computer Club - the future of home entertainment

CHOICE

Nobody else offers such a superb selection for your introductory offer. And once you're a member you can choose from a vast range of the latest and best games releases (platformers, shoot-'em-ups, God games, sports

sims), powerful database, WP and programming applications and excellent computing books.

SAVINGS

An IMMEDIATE SAVING - choose any three programs from the 59 featured here from only 49p each, plus £2.99 p&p.



Your only commitment is to select one item per issue from the club magazine for a minimum membership of six magazines. You're guaranteed to save money on everything you buy from us - from a minimum of 20% up to 50% on recommended prices.

QUALITY

All our software is produced by leading companies like GSP **Electronic Arts, Ocean and** Virgin. Plus, as a member, you're fully covered by our replacement guarantee.

SERVICE

Once you're a member, every two months or so we'll send you our FREE full-colour *Program* magazine, each issue packed with software and books to suit every taste.

Each Program features an Editor's Choice, specially selected by our club experts. What's more, to receive it you don't have to do a thing - we'll deliver it to your door. Or if you prefer something else, just tell us on the order form, the choice is yours.

Your assurance of good service is that The Home Computer Club is part of BCA, which has 30 years' experience of providing quality and value to over two million members.





E NEXT STEP

So now all you have to do is make your selections, fill in the coupon and send it to us. We'll send you your introductory selections (plus a FREE MYSTERY GIFT), your first free copy of Program and a membership guide. You don't even need a stamp - it couldn't be easier.

Join today & save up to £145!

ROM eased at £29.99 r Price £6.99 derers. gsters, ers. men, forgers, kmailers, appers live history's t Infamous es and explore motives and onalities of perpetrators

IME FILES







EXPERT FONTS WINDOWS PC 3.5 Released at £14.99 Offer Price £0.49

SOCCER

Virgin

SCREAMER

Released at £29.99

Offer Price £6.49

CD ROM

CHALLENGE/

MICROPROSE

SOCCER PC 3.5"

Released at £9.98

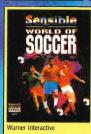
Offer Price £0.49



ROGRAMMING IN 21 DAYS CD ROM Released at £31.95 Offer Price £7.49



THE HUTCHIN MULTIMEDIA ENCYCLOPEL 1996 CD ROM Released at £49.9 Offer Price £12.9 AVE £37!



You must track

the-Ripper-style

down a Jack-

serial psycho

who's stalking the mean

Gametek

SENSIBLE WORLD OF SOCCER CD Released at £39 Offer Price £8.9 SAVE £31

SENSIBLE WORLD OF SOCCER PC Released at £34 Offer Price £7.4 SAVE OVER E





Computer Club

The Home

Swindon SN3 4BR







Coming soon ...when you join The Home Computer Club Earthsiege 2:

Skyforce - the Earth is in trouble as renegade Cybrids psych themselves up for a second tilt at global domination. With new target-aiming, speed-up and shield-pods, advanced artificial intelligence, freedom to fly

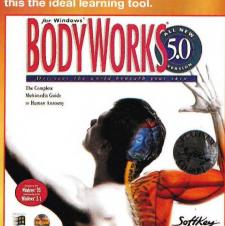
anywhere, even an airborne HERC - the robot game will never be the same again!

GA European Tour

- pound the fairways of three of Europe's toughest courses - Wentworth, Gut Kaden in Hamburg and The K Club in Ireland competing against, or as, one of a roster of top 9 pros (including Colin Montgomerie and Bernhard Langer) in Strokeplay, Skins, Matchplay or Tournament modes.

Bodyworks for

Windows - take a head-to-toe trip around your body, exploring in detail its amazing anatomy, systems and functions. Fantastic 360-degree rotatable 3D models, dazzling lifelike images, a massive library of information and 60 minutes of video make this the ideal learning tool.





PHIIS

ombal

entury Entertainment

R POWER

eleased at £44.99

fer Price £8.99

VE £36!

R POWER

leased at £39.99

fer Price £7.99

VE £32!

48 PINBALL

Offer Price £6.99

49 PINBALL

ILLUSIONS

Released at

Offer Price

PC 3.5"

£37.99

€6.99

ILLUSIONS



DESIGNER

DESIGNER PC 3.5°

Released at

Offer Price

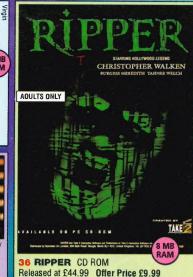
£19.99



Offer Price £8.99

VE £31

SAVE £28!



streets of 21stcentury New York. A cast headed by Christopher Walken. fantastic computergenerated sets - this is the ultimate interactive movie meets murder mystery experience!

















BUSINESS REPLY SERVICE LICENCE NO. SN234



Released at £29.99 Offer Price £4.99

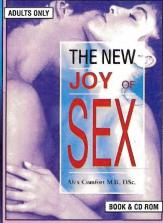


SAVE **£31!**













SAVE OVER £15!

WINDOWS PC 3.5" eleased at £14.99 Offer Price £0.49





Offer Price £8.49

Throw away

of what a 3D

preconceptions

game should be

this apocalyptic

and check out

first-person,

fuelled mega-

blaster with

360-degree

freedom of

movement.

mind-bending

puzzles and as

much hi-tech weaponry as

vou can carry.

adrenalin-

all your



Mystery Gift absolutely FREE!

myster

As soon as we

application we'll

send you a fabulous

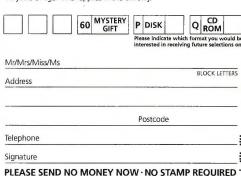
receive your membership

To: The Home Computer Club, Swindon, SN3 4BR Please enrol me as a member of The Home Computer Club and send me the introductory items whose numbers I have entered in the

If I decide to keep them you will charge me the special offer prices shown (plus a total of £2.99 towards postage and packing). If I am not completely satisfied I will return the items within 10 days in the condition in which I received them. My membership will be cancelled and I will owe nothing.

As a member I will receive, approximately every two months, a FREE edition of the club magazine from which I agree to buy at least one item. I understand that the minimum length of membership is for six magazines. If after this time I wish to cancel I will do so by giving one month's notice in writing.

Membership is subject to acceptance and we may consult a licensed credit reference agency who may record the search. I am over 18 years of age. Offer applies in the UK only.



The best names – the best prices







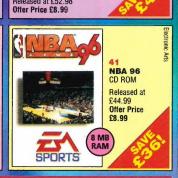


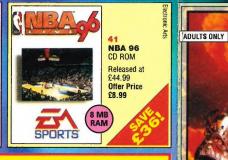
JIM 1 & 2 CD ROM Released at £29.99 Offer Price £8.99

9 ACTUA











FIRESTORM:

Released at £39.99

Offer Price £7.99

2 CD ROM







et a free mystery gi







CD ROM Released at £59.99 Offer Price £17.99

and save up to

42 DUKE NUKEM 3D CD ROM

Released at £44.99 Offer Price £7.99

Buy any three from 49 peach

